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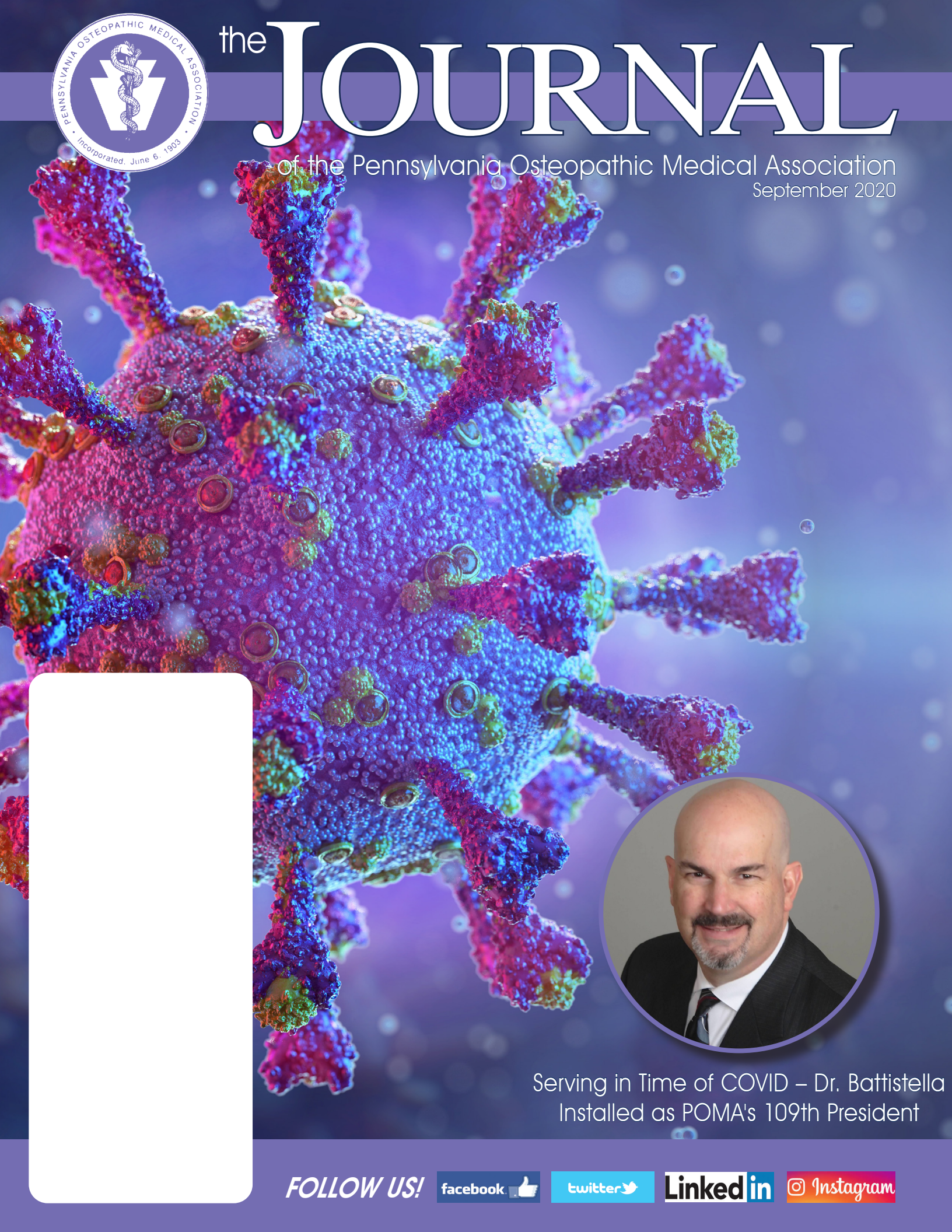

Serving in Time of COVID – Dr. Battistella Installed as POMA's 109th President

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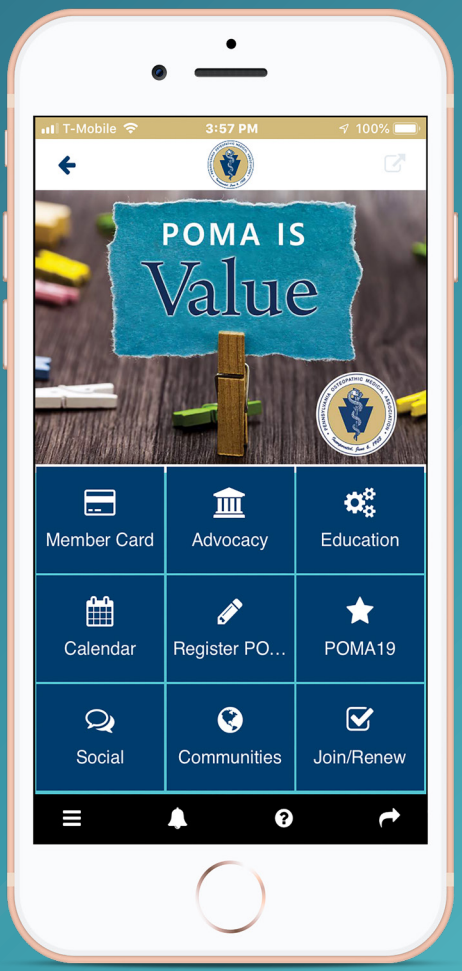

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September 2020 / Vol. 64, No. 2

THE Journal OF THE PENNSYLVANIA OSTEOPATHIC MEDICAL ASSOCIATION

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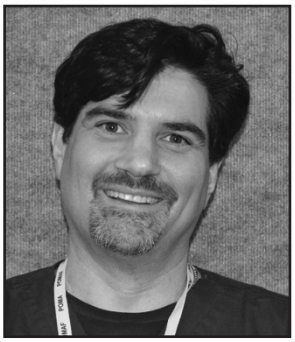
FROM THE EDITOR'S DESK

Mark B. Abraham, DO, JD



Mark B. Abraham, DO, JD
Editor-in-Chief

The theme for this issue concerns COVID-19 and how our lives have changed. Our practices. Education. Medical education. Vacations. Personal or social time. All of it has changed. While I always invite the membership to submit articles for our various issues, sometimes the submissions are Letters to the Editor and appear in future issues. I appreciate each one submitted, and the time and care taken. From time to time some members of the Publications Committee offer submissions. Others, such as Dr. Garloff, are frequent contributors. The most challenging aspect of being on the committee is judging the writing contest. While the final outcome has been delayed, we have the papers, and they are being reviewed and judged.

For this issue and the next, I have also asked the members of the Publications Committee for submissions on this COVID-19 theme. I received various submissions each with a unique perspective on this pandemic.

Our pre-medical and medical students have shared their perspectives. They are the ones learning and observing just as we are with the obvious difference that they are not yet physicians. They are learning it all together. Perhaps they have an advantage over us? When I was a student, my first rotation was general surgery at Conemaugh Memorial Medical Center in Johnstown, PA. I was with the attending surgeon during office hours when a patient presented with a peri-anal mass. He lowered his underwear, revealing a giant condyloma. The attending excused himself from the room and asked me to join him just outside of the exam room. Once outside, he asked me "So, were you shocked?" I answered "no." He responded, "You should be because I am." I answered, "Doctor … I don't know enough yet to know when I should be shocked or shouldn't be." He nodded and we returned to the room. Perhaps this is the advantage that the students have over us now.

Some have framed the current pandemic in osteopathic terms. Whether it is the rule of the artery or the Tenets of Osteopathy, it is interesting to see how the crisis we currently face is similar in many ways to those issues which led Dr. Andrew Taylor Still to develop a new way to treat and help heal patients.

Of course, all the changes to our practices have allowed for other opportunities such as spending more time with loved ones and in different ways.

These changes and circumstances have also highlighted areas in healthcare and healthcare delivery which need improvement.

I thank all the contributors and committee members for taking the time to write and submit articles.

Our next issue will concern "the new normal" and how we are continuing to cope with the changes post-COVID. Dr. Garloff recently suggested that the specific theme be "Life Goes On." I agree and look forward to everyone's contributions. If you have never submitted anything to the Journal, please consider doing so now. We are all learning and adjusting. We can all draw upon each other's experiences.

OP-ED

Brynn Cardonick

To My Fellow Pre-Med Students: What Now?

Brynn Cardonick

Pre-med students now have a lot more to think about than just grades and MCAT scores. As a pre-med student who is following the progression of the COVID-19 pandemic, I'm thinking, "What have I gotten myself into?" This is the first time anyone in my generation has experienced an over-arching disruption to our education. We're doing labs and dissections online and having medical school interviews over Zoom. A lot of us are worried about how the pandemic will affect our future medical education. How will we be able to learn examination techniques which require a hands-on approach including osteopathic manipulative medicine when everything seems to be going "virtual?"

I can imagine a new type of cultural competency emerging. We will need to learn what it means to practice medicine in the virtual world. Besides addressing race, ethnicity, and language, we will need to address the disparity of access to the technology for telemedicine visits. We will grapple with how to weigh which ailments need to be assessed in person. The current medical students are in uncharted territory; they are learning how to deal with these issues as they develop. My generation of students will be fortunate to learn from their experiences.

For some of us, the COVID-19 pandemic has made us want to become doctors even more. We are more motivated to enter the medical field as we read about healthcare providers on the front lines and want to join their ranks. We also have to consider how society's view of our future profession has changed during the pandemic. What does it mean to enter into the medical field at a time when health is getting more attention than it ever has before in our lifetime? We are seeing doctors become important ambassadors for the nation, as they were at the outset of the AIDS epidemic. As pre-med students, we are now old enough to understand the influence a doctor's words can have on the nation.

We are watching the growing leadership and influence a doctor has during this world-wide medical crisis, and we are excited to one day add our voices.

Gene M. Battistella, DO, Installed as 109th President of the POMA

Gene M. Battistella, DO
POMA's 109th president

I am so proud, honored and humbled that you to have entrusted me to serve as your President for the coming year. Certainly, MUCH has changed since I became President-elect, not the least of which has been our new reality of the COVID-19/Coronavirus Pandemic. I had originally formulated my thoughts for this week and my inauguration for a completely different set of circumstances than we now all face. Although much of what I was going to say would have been with my family present, most still holds true with my Osteopathic family assembled here virtually tonight, so I will proceed.

Please indulge me as I take this opportunity to publicly thank some very special people in my life that had planned on being with us for this inauguration who have helped me become who I am:

My Parents:

Catherine and Glenn Battistella.

Thank You! What more can a child say to his parents and it is never enough. They have both been role models for me as I have grown up in a home filled with love, faith and family. Their examples going about every day of life with these virtues, as well as having a strong work ethic and always having respect for yourself and others, were the basis of the person I strive to be every day. I love them and I thank them both more than I can ever express!

My Brothers, Sister and Extended Family:

My bother Glenn and my sister-in-law Debbie, as well as nephews Anthony, Bradley and wife Megan; My bother Gary and sister-in-law Diane; My sister Brenda, bother-in-law Michael and nephew Michael Anthony.

We grew up together in a loving, faith filled home with lessons learned by the quiet examples set forth by Mom and Dad. By no means are we the perfect family... we argue, are each often stubborn at times and of course each of us is always right about whatever is being discussed, but at the end of the day, family is what always brings us together. I love them all and thank them for their support.

My Father and Mother-in-law:

Steve and Georgetta Hela.

In-laws can get a bad rep, but they are not representative of that popular portrayal. I thank them for their love to Michelle, Domenic and myself and for becoming part of our family.

Last but NOT least, Michelle and Domenic:

Domenic: Michelle and my prayers were answered the day we learned of Domenic's coming and I thank God for him every day. We at times are too much alike but he continues to grow up into a fine young man, is my best friend and I am so proud of him. I love you buddy!!

Michelle: My beautiful, loving wife without whom none of this is possible. I thank her for putting up with my early mornings and long nights and weekends at work, my time away from her, Domenic and family for POMA, District 8 and everything else that keeps me from being with them more than I desire. As we can all attest, behind every person dedicated to this wonderful profession of Osteopathic Medicine, there is always someone who picks up the slack on our behalf. Michelle, I love you and thank you for all you do for me and our family!

If it hasn't become evident by now, family is very important to me and is a driving force in all that I am involved. I've briefly introduced you to my family but there are other families I would be remiss if I did not mention here tonight:

My St. Vincent Family:

Brother Norman Hipps.

Dean of Academics & Provost while I was a student and then later as the now Immediate Past President of St. Vincent College, who was planning to give our invocation at the inauguration banquet. His friendship personally and the Benedictine education provided to me at St. Vincent is invaluable to me.

Father Paul Taylor.

President of St. Vincent College. I was inspired by his recent inauguration speech and look forward to all the great things he will do at St. Vincent, continuing the legacy of this wonderful institution and of your predecessors, including Brother Norman. I hope in some small way I can do the same here at POMA.

St. Vincent is truly a special place and I feel blessed for having gone there for college and every time I have the opportunity to return. It was one of the best decisions I've ever made!

My PCOM Family:

Dr. Ken Veit, Dean and previously my "Boss" at City Line Family Practice where I did work study while a student at PCOM, Carol Fox, Pam Ruoff, Kevin Barry and the rest of the PCOM family for giving me the opportunity to live my dream beginning with my Osteopathic Medical education at PCOM and with continued friendships.

My Closest Friends of the PCOM Class of 1992:

- George and Maureen Persin
- Deb Wanglee Sundlof and Johan
- Wade Brosius and Gretchen

My Office and St. Clair Hospital administrators and friends where I presently practice:

- Monica Aravich, my office manager of many years, and husband Frank
- Jim Collins, CEO
- Chuck Rakaczky, VP of Practice Management
- Barry Zaiser, VP of Operations and Strategic Management
- Mike Flanagan, Senior VP & Chief Operating Officer

Thank you all for being here today!

I also need to mention my partner in practice, Michael Notte. He is like another brother to me. I spend more time with him than anyone. He can't be here today as he's working so I can be. It will be a busy year for him as well on my behalf and I thank him immensely.

And now for my most close Osteopathic family, POMA District 8:

- Les Pallone: My mentor and D8 chairman emeritus and past POMA president who had taken me under his wing 20+ years ago, encouraged me to become more involved in POMA, D8 – and has been very much instrumental in my advancing within the profession to today... I thank him for his guidance and friendship!
- Tom DeGregory, former POMA trustee and long-standing education committee member,
- Pete Stracci, D8 vice chairman and POMA trustee,
- Jessica Masser, D8 treasurer and POFPS incoming president,
- Chris Poggi, D8 secretary,
- Dennis Eckels, D8 education committee member and former secretary,
- Margel Guie and Kevin Thomas, our most recent additions to POMA D8 education committee this past year.

This is truly an amazing "team" and I am blessed to call you all friends and to work with each of you for the benefit of D8 and our members.

I would be remiss if I didn't mention:

- Gary Plundo, former D8 chairman and past POMA president for his involvement early in my Osteopathic career when I was as a student, then as a physician and member of D8.
- Al Poggi, former POMA Trustee and D8 committee member. He and Betty are truly missed.

Last but certainly not in the least my POMA family, why we are all here today:

POMA is an organization that is rich in history since its inception in 1903 and has a strong legacy of leaders that have and continue to impact our profession and the people for whom we care. A special thank you to our now immediate past president, Pamela Goldman, DO for leading POMA with vision through a time of change and guiding us through at times turbulent waters to advance the organization for the future. Joan Grzybowski, DO; George Vermeire, DO; Anthony DiMarco, DO and Michael Zawisza, DO as our most recent distinguished presidents in addition to all of their predecessors, have been instrumental in the continued transformation of the POMA along with you all, our dedicated Board of Trustees and officers, including Joseph Zawisza, DO, vice president and now president-elect and Eric Milie, DO secretary/treasurer. Jeffery Dunkelberger, DO, my trusted friend and confidant, or in terms of the classic movie The Godfather, my consigliere, who is also Speaker of the POMA House of Delegates and was to be my Master of Ceremonies for the inauguration. Know that I trust in your wisdom and pragmatic demeanor and will do so even more in the year to come.

Our amazing POMA Staff, beginning with Diana Ewert, CEO/Chief Staff Officer; Andy Sandusky, VP Public Policy & Association Affairs; Brenda Dill, Director of Education & Communications and now more importantly and what a blessing, a mother to be once again; Tammy Keller, Governance Specialist; Jason Leeper, District Program Manager; Deb Cargill-Roan, Membership Manager; and Susan Depue, Administration Coordinator, Finance.

Thank you for all that you DO!

The list of people that have given of themselves for the advancement of the POMA and to me personally is amazing, and no list can be complete. I'm sorry that I can't name you all individually but know that you have and continue to be appreciated as well for all that you DO. Thank you!

(continued on page 28)

LECOM DEAN'S CORNER

Lake Erie College of Osteopathic Medicine

Silvia M. Ferretti, DO
LECOM Provost,
Vice President and
Dean of Academic Affairs

COVID-19 2020

As the new decade began with a year consumed by an unimaginable global pandemic, it still seems unfathomable that the entire world was placed on pause and that so many have been harmed by this once-in-a century calamity. With the fallout of the pandemic still fresh in our collective consciousness and as the Novel Coronavirus continues to spread, it also has continued to require rapid and creative problem-solving strategies as well as the agile and adaptable enactments of public health measures. For many, the implementation of such requirements have seemed to rival works of science fiction.

By now, most everyone is acutely aware that the Coronavirus, or Covid-19 as it has come to be called, made its way from China to the shores of our nation, bringing with it many unknowns. With questionable origins, the viral components and the best practices to control and combat the illness were of key concern to practices and practitioners across the medical spectrum.

LECOM clinical sites, many of which were in Coronavirus hotspots, experienced the full brunt of the pandemic. Our alumni, battling on the frontlines of the disease, acquitted themselves as true healthcare heroes.

Considerable and unremitting attention to following and implementing CDC protocols has become the norm; ensuring that practices and facilities respond rapidly and with agile adaptability as information about the virus changes, and ensuring that first rate care is uninterrupted have been key components of the new age of the virus.

The LECOM response to the outbreak was stellar. Comprehensive preparedness resulted in a full complement of graduated healthcare professionals in the Class of 2020 - the largest graduating class to date. Through all of the vicissitudes, LECOM remained ready to respond, prepared, and ever alert and vigilant. The highly-skilled teams at LECOM devoted full effort to graduate the current class, to advance the Classes of 2021, 2022, and 2023; and now, to face the challenge of welcoming the Class of 2024 while simultaneously engaging positively with a developing Class of 2025 yet to be.

The pandemic has, for the moment, changed the way in which we live. For the next several years, it will have lasting effects upon our necessarily changed behaviors.

With all of the unprecedented and concerning financial declines wrought by the outbreak of the Coronavirus, doctors, healthcare professionals, and hospitals in the United States were particularly disadvantaged due to the forced suspension of elective procedures, among other concerns.

Yet, the whole of the LECOM Health System is emerging strong, united, and ready to educate the next generation of frontline healthcare professionals.

As LECOM President and CEO, John M. Ferretti, DO has noted, "Like our nation, the field of medicine is facing a time fraught with transformation. The pandemic has served to define medical professionals as the paragons of community health. The LECOM legacy has been a story of a remarkable American educational institution - set upon a mission to build the future of healthcare that it sees possible - to offer hope where there is today only anxiety, to offer solutions in a world too often focused upon only looming challenges, to educate and to inculcate at a superlative level. The tumult, as a result of the pandemic and the brewing national tempest, has further highlighted the true need and value of knowledge of our history, of the healthcare professions, and of the importance of those who serve on the frontlines of health and wellness."

Indeed, during any adverse situation, the key to success is visionary leadership. Armed with this indispensable characteristic, those in the noble profession of medicine will endure.

PCOM DEAN'S CORNER

Philadelphia College of Osteopathic Medicine

Kenneth J. Veit, DO
PCOM Provost, Senior Vice President for Academic Affairs and Dean

As we enter the fall having spent the better part of the last six months in the middle of a global health crisis, we find ourselves with more questions than answers. The world is changing, and has changed as a result of COVID-19. What are the long-term impacts on our healthcare system? What of the effects on students and their instruction? Are virtual learning environments a permanent fixture, and how best do we, as clinicians, continue to provide the high-quality care and attention our patients expect and deserve?

These are just a few of the many questions we face at the moment, and will continue to try to answer over the coming months and years. For students, this is no doubt an acute period of anxious anticipation and uncertainty. As I told the graduates at our commencement ceremony in May, now is a particularly difficult time in healthcare and in the world. It is only appropriate to acknowledge the gravity the COVID-19 pandemic represents and the front lines you will join. Though the term is ubiquitous at this point, unprecedented is certainly the most apt descriptor of the moment in which we find ourselves.

For doctors, most especially DOs, how can we continue to serve our patients without the ability to physically examine and care for them in the traditional setting of an exam room? If telemedicine and other virtual environments represent the future status quo, how do we expand our care to those with poor or sporadic internet access or other socioeconomic roadblocks? Furthermore, how best can our OMM practitioners treat and care for their patients with the personal touch that is the foundation of our discipline? These are some of the unique challenges we will have to overcome as we continue to adapt to an altered concept of 'normal.'

From this moment, however, are tremendous opportunities for all of us. Opportunities to grow as individuals and professionals; opportunities to push the boundaries of what we considered possible; and opportunities to advance the medical field in ways not seen in a generation.

Among PCOM students, we have seen incredible resilience and a sustained effort to do more for the communities in which they live. Our students have organized collection and distribution efforts for critically-needed PPE; established grocery delivery programs for the elderly and infirm; and coordinated fundraisers to support those in need, among other selfless acts of charity. I am filled with a great sense of pride knowing they are the future of healthcare.

We are also witnessing great strides in vaccine research and development; critical information sharing among doctors about the long-term effects of the virus on the body; and advancements in treatment to drive better patient outcomes. Experts from around the world are coming together against a common enemy, all in the name of public health.

Though this cloud of uncertainty looks to remain for the foreseeable future, we will see the other side of this and, I hope, be better – better students, better doctors, and better human beings. Above all, I am confident we will continue to uplift one another through our shared communities, our shared humanity, and our shared commitment to helping and healing.

A STUDENT'S VOICE

Ashley Pinckney, MBS, PCOM OMS-IV

Ashley Pinckney, MBS, PCOM OMS-IV

Sitting in a break room with my attendings during the first week of March, we all speculated about how serious COVID-19 really was. Should we cancel upcoming spring vacation plans? Is flying really that unsafe right now? What's worse: domestic travel with a long flight or international travel with a shorter flight? One physician told me that as long as I had a mask and washed my hands, I wouldn't have to worry about the virus at all since I'm young. Unbeknownst to us, COVID-19 was already exploding in Southeastern Pennsylvania. On the evening of March 15, PCOM announced a two-week suspension of all student rotations. At first, I enjoyed the relaxed schedule…until the number of cases worsened, disease guidance made clear that patients of all ages were susceptible, and the future of clinical rotations and board exams was uncertain. An unplanned break quickly turned into completing the end of my third year of medical school and start of my fourth at home, sidelined from helping in a global health crisis.

Like many other medical schools, PCOM quickly put together options for virtual rotations so that we could continue our learning as best we could in a virtual fashion. Many medical students realized that "work from home" was just not the same. We were used to studying all the time, but studying exclusively at home is not the same when you're used to a library or local coffeeshop. Many of us loved the idea of video calls for work and personal life, but did not anticipate the "Zoom fatigue" that comes from video call being your only source of human contact. We were conditioned to keep demanding and sometimes near-impossible schedules, all of which were suddenly removed or severely altered. These adjustments created a type of mental fatigue and exhaustion that the psychology community has come to consider a type of post-traumatic stress disorder.

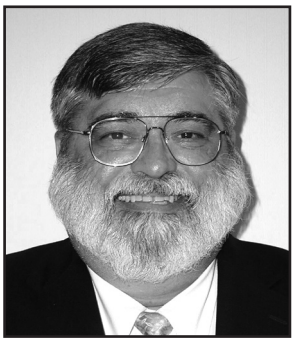
An impact shared across both personal and professional realms is the mortality of a pandemic. Many health care workers have traded their care for patients with seeing their families to minimize likelihood of transmitting disease. Not only are we all concerned about contracting the virus ourselves, but also passing it to both loved ones and our patients. As medical students return to rotations and consider traveling to take their COMLEX exams, we are concerned about the unforeseen implications that may arise. Another impact that has been exacerbated is inequality of access to health care. Patients from underrepresented backgrounds have been disproportionately affected by COVID-19, in part due to their long-standing disadvantages in socioeconomic status. For patients who have been able to remain employed, many rely on public transportation to get to work and public interface to complete their jobs. These patients are risking their health and that of others to obtain an income. Many patients are finding themselves without both jobs and health insurance, having to choose between life-saving medications and food or rent. These are unfortunate choices for any person to make, and highlight cracks in the infrastructure of our economic and health care systems.

Despite the continued uncertainty, varied gains and losses, and global impacts of COVID-19, there are still lessons to be learned in the health care community. It has been a good learning opportunity to experience a global pandemic in the early beginnings of my career; public health preparedness and disaster medicine have taken a whole new meaning to me. This pandemic has revolutionized the way we approach interprofessional medicine. Regardless of your role, we have all assumed an "all hands-on deck" approach to work with professionals in all areas of health care to provide the best care to our patients. Recent and soon-to-be medical graduates will carry these lessons with us throughout our careers. We will be the health care leaders in the not-so-distant future should another global pandemic arise. We will emphasize proactive responses at our hospitals and guide the upcoming generation of medical students and residents. We will be a part of the grand rising of telemedicine as a staple in health care and use the technological advancements to care for our patients. COVID-19 has impacted us all, but I am confident this experience will have made us stronger osteopathic physicians as we move forward.

OUT OF MY MIND

Samuel J. Garloff, DO

We Didn't Stop the Fire



Samuel J. Garloff, DO

Prologue:

On June 30, 2020 I received two emails of interest. One was from Brenda Dill, Senior Director of Education and Communication informing me that the Journal was restarting. Dr. Abraham, our editor, requested that COVID-19 be addressed, focusing on its effect on the practice of medicine as well the individual.

The second email was from the Federation of State Medical Boards. It contained a reprint of the article "Physician Shortage Projected to Worsen Through 2033". This article by Christopher Cheney was published June 26, 2020. It highlighted a report by the Association of American Colleges. They state that by 2033, the shortage of physicians is expected to range from 54,100 to 139,000.

It would appear that the two emails are not related. Hopefully, this article will show the correlation.

Part One:

Just the Facts Ma'am

The United States represents just 4% of the world's population. The United States also represents 25% of the world's COVID-19 cases and deaths. Since the beginning, my mailbox has been receiving the Johns Hopkins COVID-19 dashboard. Hopkins was reporting data before the World Health Organization first declared a pandemic. The dashboard was started by Lauren Gardner, associate professor of Civil and Systems Engineering. This source received an excess of 3 billion data requests per day. She was initially assisted by first-year PhD candidate, Ensheng "Frank" Dong. Mr. Dong's family is located in China and provided constant updates. Gardner's previous work resulted in modeling the spread of infectious diseases such as: Zika, dengue, bird flu and measles. She is an expert on the intersection of epidemiology and transportation. She and her colleagues coined the phrase bio-secure mobility. The US Department of Health and Human Services utilizes her data.

Was the United States prepared for a pandemic? The answer is qualified yes. On October 1, 2019 prior to the first person becoming ill in Wuhan, China, Dr. Tom Inglesby addressed a high-level pandemic response team convened in New York City. Inglesby represented the Center for Health Security (CHS) formed in 1998. Inglesby was participating in part of a tabletop exercise prompted by SARS, H1N1 and Ebola. The concept of the CHS was to have the world prepared for the next epidemic. Within three weeks, the world entered a pandemic.

The CHS had previously created the Global Health Security Index, which evaluates a county's capacity to prevent and respond to a disaster. On a scale of 100, the average score is 40.2. The US ranked first in the world with a score of 83.5. In essence, we should have been prepared for COVID-19.

What happened? In short, we as a country suffered from a lack of national leadership and a less than adequate response from the CDC. Social media fueled denial of concern comparing COVID-19 to the flu, declaring it a hoax, stating that it would simply dissipate, etc. The CDC abrogated its responsibilities by not issuing significant health warnings to our citizenry. The world offered help to the CDC which was refused. This help included testing materials and contact tracing schemes shown previously to be beneficial. The CDC stated they would develop their own testing and failed in their stated mission. Precious time and lives were lost due to inadequate and delayed guidance.

As a nation, many of us have chosen to abandon the principles of simple social distancing and the use of protective masks. Such freedom comes with a substantial price. Ignorance and/or denial of science does not result in bliss.

Part Two:

The Medical Community's Response

"We come to work for you, you stay at home for us." Huh? I watched public service announcements like this on my television for weeks. Intention made sense. As long as triage centers were constructed to detect COVID-19 patients, emergency rooms did not want to be overburdened by routine medical complaints.

Notices were sent to patients that offices would be closed due to the virus. In fact, the notices went so far as to instruct patients to call and if it was felt that they may actually be ill, they were referred to walk-in centers, COVID triage centers and emergency rooms.

Routine appointments were now to be conducted utilizing telemedicine. As a psychiatric physician who practiced telemedicine for years, I was amazed to discover that the

(continued on page 29)

A STUDENT'S VOICE

John Acquaviva, LECOM OMS-I

John Acquaviva, LECOM OMS-I

The Osteopathic Tenets in Healthcare

Introduction

As a rising second year osteopathic medical student, the origin of osteopathic medicine has been intertwined into my education of the human body for a full year now. I have heard the name "A.T. Still MD, DO" every single week of my medical education and have been tested on his life story on every single exam related to osteopathic principles and practice. As I studied the intricacies of the human body systems, I often had to take a pause from the physical sciences to learn, and even recite, the osteopathic tenets. To be honest, I found myself questioning the purpose of studying the same statements for every exam. Why on earth do I have to learn these tenets when I still have to memorize every branch of the descending aorta and which organ each branch supplies? This question was answered for me when the COVID-19 pandemic began.

Osteopathic Tenet #1

The body is a unit; the person is a unit of body, mind, and spirit.

Like the body cannot function without the cooperation of all systems, a patient cannot be treated successfully without the cooperation of a committed healthcare team. The healthcare system's response to COVID-19 is like the human body's response to an illness. An illness in the body is fought with a complex assembly of immune cells and regulatory mechanisms, similar to how the healthcare system responded to COVID-19. If one aspect of the immune response is weakened, the chance of illness chronicity increases; just like if one aspect of healthcare is dysfunctional, the goal of patient treatment and recovery will be more difficult to obtain. The global efforts and adjustments made to fight COVID-19 emphasize the fact that our healthcare system is a unit and without a cooperative effort, the devastating effects of the virus cannot be eradicated.

Osteopathic Tenet #2

The body is capable of self-regulation, self-healing, and health maintenance.

Working out of a large hospital and a palliative care center in Northern New Jersey, Laura Maccone, a family nurse practitioner who is certified as a hospice and palliative care nurse, a critical care nurse, and a heart failure nurse, recounts her work experience during the COVID-19 pandemic by writing, "Human connection and an understanding of a patient's personhood are essential in palliative medicine, which were a challenge to provide during this time, as many interactions needed to occur telephonically. The complicated bereavement that will be experienced by both families and healthcare professionals as a result of this is immeasurable". In palliative medicine, a major goal of care is comfort and peace for the patients. However, comfort and peace are typically intertwined with the company of family and loved ones. The COVID-19 pandemic has limited the actions of visitation and concrete goodbyes in fields such as palliative and hospice medicine. Thankfully, healthcare professionals, while recognizing the shortcomings of telemedicine, have done everything in their power to foster self-regulation, healing, and health maintenance physically and emotionally during times of bereavement. Laura Maccone and countless other professionals give families the ability to say goodbye to their loved ones and provide patients with comfort during times that seem inexplicably bleak. In this, and in many other ways, the healthcare system has perpetuated the second osteopathic tenet during the battle with COVID-19.

Osteopathic Tenet #3

Structure and function are reciprocally interrelated.

Human bodily functions are intimately connected to the structure of the tissue that the function is carried out by. Furthermore, tissue structure is a direct result of its function in the body. For example, the femur is "designed" as the strongest and most durable bone in the body because it is involved in direct and constant weight-bearing of the upper body and pelvis. However, the femur is also so durable because of the constant force put on the bone due to bone remodeling and ossification procedures throughout life. The concept of interrelation between structure and function can be applied to healthcare and how public

health events such as the COVID-19 pandemic are handled.

Chelsea Bates, MPH, a public health preparedness coordinator in Erie County, Pennsylvania, who has been involved in direct public health reform since the pandemic began, states, "At the start of the pandemic, much of our normal day-to-day duties were put on hold so that we were able to put our full focus onto the COVID-19 response. Due to the fact that many of us work under fully-funded grant programs, we are now having to complete our normal grant deliverables and responsibilities, as well as continuing our efforts against COVID-19". Public health and epidemiology are the structural components of our healthcare system. The individuals who work for these departments, like Chelsea Bates and countless others, are required to put their energy into research, surveillance, and public action so that the framework of our society can be maintained. Additionally, these efforts are required in order to ensure that direct healthcare employees can successfully understand, and therefore treat the public health threat. While public health departments provide the structure of the healthcare system, the direct patient-care personnel are the "function" that is carried out due to the information and research done by the public health departments.

Moreover, the direct patient-care personnel are an important part of the development of public health case definitions because of their role in providing feedback on new symptomatology. Chelsea writes, "COVID-19 has taught us to always be ready to pivot in different directions, as the virus and guidance to prevent it has changed at a moment's notice". The feedback of information regarding COVID-19 from healthcare professionals to public health departments, and from public health departments back to healthcare professionals can be directly compared to the second osteopathic tenet.

Osteopathic Tenet #4

Rational treatment is based upon an understanding of the basic principles of body unity, self-regulation, and the interrelationship of structure and function.

The final osteopathic tenet may seem like a summation of the previous three tenets; however, it is more accurately a call for knowledge and education. Knowing the osteopathic tenets is important, but learning, understanding, and applying these tenets to practice is the true goal of osteopathic academia and healthcare professionals in general. Education in healthcare is pivotal and during the COVID-19 pandemic, the way in which education is provided has completely changed. Annmarie Acquaviva, a radiographic technician and clinical instructor of 33 years for multiple hospitals in northern New Jersey, describes the change to virtual instructing by writing, "To model in-person clinical education, I have implemented one-on-one X-ray image evaluations on video chat. This method has provided the hands-on instruction needed during this crisis. The students were able to interact with me in a very direct manner as if we were in the hospital together". While the change to virtual education is difficult, professors, physicians, and clinical instructors have adapted in ways that provide successful education, even when direct clinical experience is needed by the students. The opportunity for students to receive effective instruction during a pandemic will help to establish a future workforce of not only educated healthcare professionals, but adaptive thinkers as well. The revised teaching provided by educators such as Annmarie Acquaviva and countless others, is a direct representation of what the fourth osteopathic tenet presents: acquiring knowledge is pivotal to the successful treatment of patients.

Conclusion

While the COVID-19 pandemic is a devastating time across the globe, it is important to focus on what we can learn from the efforts of our healthcare workers and educators from various different backgrounds. As a future healthcare provider, the pandemic has given me an opportunity to evaluate how our healthcare system can come together against one common enemy. This has provided me with the ability to witness how the values I have been taught as a student align with the values that are being presented in contemporary practice. The osteopathic tenets are at the center of these established values, and while I have only provided a few examples of specific healthcare and public health personnel aligning with these tenets, it has been made extensively clear to me that the tenets are pervasive in all of medicine. Maybe, the answer to my question presented earlier regarding why I have to learn the osteopathic tenets is rather simple: these tenets are not only applied to healthcare, these tenets are healthcare.

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https://osteopathic.org/about/leadership/aoa-governance-documents/tenets-of-osteopathic-medicine/

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Medical Update
National Trends in the Use of Targeted Immunotherapy in the Up Front Management of Glioblastoma

by Richard White, DO

Abstract

Glioblastoma (GBM) carries an abysmal prognosis. Current standard of care involves an aggressive multimodality approach including surgical resection followed by adjuvant chemoradiation. Despite this approach, overall survival remains poor and treatment approaches continue to evolve. Given the successes of immunotherapy in other disease sites, implementation in GBM management may improve outcomes. We conducted this retrospective National Cancer Database (NCDB) study to analyze treatment trends and outcomes from 2004-2015 regarding immunotherapy for GBM and queried for patients diagnosed between 2004-2015 with GBM and excluded patients treated without surgery, extracranial radiation, or chemotherapy as well as those lost to follow up.

Of the 39,317 eligible patients in this study, 511 were treated with immunotherapy and 38,806 lack thereof. Median overall survival for all patients was 15 months with a 2- and 5-year survival rate of 29% and 8%, respectively. Factors positively influencing delivery of immunotherapy included younger age, higher income, facility location in a metropolitan location, greater distance to the treatment facility, treatment at an academic facility, treatment outside of the years 2007 to 2009, and Caucasian race. On propensity matched analysis, survival was 18 months and 17 months with and without immunotherapy, respectively ($p=0.15$). Higher comorbidity, lower income, and male gender predicted for worse survival.

The results of the NCDB analysis showed an initial decrease and then increase in the use of immunotherapy in the management of GBM. Propensity-matched analyses did not show an overall survival benefit.

Background

Glioblastoma (GBM) is the most common malignant central nervous system (CNS) tumor in adults, accounting for nearly half of all annual primary malignant CNS diagnoses. Despite advances in diagnostic technologies and therapeutic techniques, relative 2 and 5-year survival rates are approximately 15% and 5%, respectively [1]. Since the landmark 2005 study by Stupp et al, the current standard of care remains maximal safe surgical resection followed by radiotherapy with concurrent and adjuvant temozolomide [2]. Nevertheless, outcomes remain poor despite the modest improvement in survival attributed to the addition of temozolomide. As such, more efficacious alternatives are areas of ongoing investigation. Trials have been conducted showing relative risk reduction with local chemotherapies [3] and CT-guided interstitial high-dose-radiation brachytherapy [4] along with ongoing others that show promise. One such recent advancement, and now considered to be standard of care, tumor-treating fields, known to most as the Optune device, a treatment modality which applies low-intensity alternating electric fields to interfere with GBM mitotic cell division has been shown to significantly improve overall survival [5].

Over the last decade, use of targeted and immunotherapy (IMT) compounds has resulted in improved oncologic outcomes in various advanced malignancies, thus revolutionizing management. Interestingly, a mounting body of evidence in the metastatic setting suggests that many immunotherapeutic agents have CNS activity. Promise has been shown in the ability of immune-modulating antibodies to cross the blood brain barrier, particularly with ipilimumab therapy for brain metastasis from

malignant melanoma and pembrolizumab for non-small cell lung cancer with brain metastasis [6]. Conversely, the role of IMT in primary CNS malignancies, specifically GBM, is not well established. Unfortunately, results from CheckMate-143, a randomized phase 3 trial comparing the efficacy and safety between nivolumab and bevacizumab therapy for GBM first recurrence, failed to show improved overall survival with the use of nivolumab over bevacizumab. Additionally, a small retrospective series examining the use of pembrolizumab in recurrent primary intracranial malignancies reported no clinical benefit [7], however, data regarding the upfront use of IMT in GBM is nonexistent. As a result, we attempted to address this knowledge gap through analysis of a large, contemporary national database comparing practice patterns and outcomes in patients with GBM treated with and without upfront IMT.

Methods

The methods for performing an analysis of the National Cancer Database (NCDB) have been described previously [8-13]. We conducted a retrospective review using de-identified data from the NCDB; therefore the study was exempt from Institutional Review Board oversight. Jointly maintained by the American Cancer Society and the American College of Surgeons, the NCDB encompasses approximately 70% of newly diagnosed malignancies each year across the United States. We queried the NCDB for patients diagnosed between 2004-2015 with GBM, excluding patients treated without surgery, extracranial radiation, or chemotherapy. Patients with less than 2 month follow up were excluded to account for immortal time bias. These patients (age range: 18-90) were particularly chosen for as they are those that received the currently recommended and maximum therapy allowing them the highest potential benefit from treatment. The resultant patient group was then split into those with IMT incorporated into their treatment regimen and those not. Of note, targeted therapies, for instance becavizumab, as well as tumor vaccines, monoclonal antibodies and other such compounds are listed as IMT in the NCDB.

Race was divided into three broad categories including Caucasian, African American, or other. Comorbidity was quantified using the Charlson/Deyo comorbidity index [14]. Socioeconomic data in the patients' residence census tract were provided as quartiles of the percentage of persons with less than a high school education and median household income. The facility type was assigned according to the Commission on Cancer accreditation category. Locations were assigned based on data provided by the US Department of Agriculture Economic Research Service. Insurance status is documented in the NCDB as it appears on the admission page. The American College of Surgeons and the Commission on Cancer have not verified and are not responsible for the analytic or statistical methodology employed, or the conclusions drawn from these data by the investigator.

Data were analyzed using Medcalc Version 18 (Ostend, Belgium). Summary statistics are presented for discrete variables. Chi-squared testing compared patient, treatment, and disease-related characteristics between the two treatment groups. Overall survival was calculated in months from time of diagnosis to date of last contact or death. Kaplan-Meier curves were used to calculate cumulative probability of survival [15]. Log-rank statistics were used to test for significant differences in the cumulative proportions across groups. A Cox proportional hazards model was used for multivariable survival analysis [16]. Due to the large nature of the dataset, factors significant on univariable Cox regression were entered using a stepwise backward elimination process. Adjusted hazard ratios and 95% confidence intervals are reported, using an alpha level of 0.05 to indicate statistical significance.

Propensity score-adjusted survival analysis was used to account for indication bias due to lack of randomization between patients receiving IMT and those not [17]. Multivariable logistic regression was used to calculate a propensity score indicative of the conditional probability regarding receipt of IMT. The propensity model included observable variables associated with treatment selection on multivariable logistic regression. A Cox proportional hazards model was then constructed incorporating the propensity score, but also excluding factors included in the propensity score calculation to avoid overcorrection. The assumption of balance was further validated by stratifying the data into propensity score-based quintiles and confirming that the difference in propensity score mean per quintile was less than 0.10.

Results

We identified 39,317 eligible patients, of which, 511 patients received IMT as part of their initial treatment after surgical resection in conjunction with chemoradiation. In 2007

to 2009, upfront IMT use showed a substantial drop off and then rebound in 2010. Predictors of IMT use included: younger age, higher income, metropolitan location, greater distance to treatment facility, treatment at an academic facility, treatment outside 2007 to 2009, and Caucasian race. The median follow up for the entire group was 15 months (range: 2-155 months). Median follow up in the IMT cohort was 16.8 months (range: 2-146), while median follow up for patients who did not receive IMT was 15 (range: 2-155). Median overall survival was 15 months for all patients, with a 2-year overall survival of 29% and 5-year survival of 8%. In all patients, median overall survival was 18 months with IMT, compared to 15 months without ($p<0.0001$). On multivariable analysis, increased age, male sex, private insurance, higher comorbidity score, Caucasian race, treatment before 2006, lower income, receipt of treatment at a community cancer program and less education predicted for poorer overall survival. As described in the methods, a logistic regression was used to generate a propensity score. The logistic regression model included age, facility type, education level, insurance type, location, race, and year group. Multivariable analysis with propensity score included was then run to determine predictors of outcome (excluding those factors used to generate propensity score). On propensity matched analysis, overall survival was 18 versus 17 months in patients receiving and not receiving IMT, respectively ($p=0.15$). Higher comorbidity, lower income, and male gender were independent predictors of poorer survival on propensity matched multivariable analysis.

Discussion

GBM is the most common primary CNS malignancy with a highly aggressive nature. Despite advances over the last decade in the management of other disease sites, clinically significant therapeutic advances in GBM have been sparse. As almost all cases tend to recur and result in death, many attempts have been made unsuccessfully to improve outcomes over the past decade. While IMT has provided hope in other malignancies, our results show that although IMT usage in GBM therapy has been increasing since 2009, no survival benefit is offered.

Recently, IMT utilization has improved oncologic outcomes in a variety of hematopoietic and non-hematopoietic malignancies, resulting in the modification of long-standing treatment paradigms. As a result, this led to exploration of the role of IMT in upfront treatment of GBM. With the known challenges of therapy penetrance across the BBB and drug related toxicities, particularly perilesional edema, intralesional hemorrhage and necrosis, multiple studies have taken aim at improving outcomes in primary brain malignancies with systemic targeted and immunotherapy. Well known to be highly vascularized tumors, initial thought was for the malignancy to be responsive to bevacizumab (BV), a monoclonal antibody against vascular endothelial growth factor (anti-VEGF). In multiple prospective phase 2 and retrospective trials analyzing bevacizumab efficacy on recurrent GBM, there was found to be up to a 35% increase in PFS [18]. With this improvement seen in salvage therapy, its efficacy was quickly queried in the upfront setting. Lai et al subsequently enrolled 70 patients with newly diagnosed GBM and combined BV with upfront radiotherapy and TMZ and found improvement in PFS but no change in overall survival [19]. Similarly, Chinot et al examined intravenous bevacizumab with radiotherapy and TMZ followed by maintenance BV and TMZ in the upfront management of 921 patients with new GBM. Although their results also showed improved PFS and maintenance of baseline quality of life and performance status, they showed an increased incidence in adverse effects and no significant increase in survival when compared to placebo [20]. Next, as pembrolizumab (anti-PD1 immunotherapy) offered groundbreaking results for malignancies of lung primary and malignant melanoma, its value was tested in recurrent primary CNS tumors and found to have no clinical or histologic efficacy in a small series conducted on 22 patients. In this study, virtually all 22 patients showed tumor progression and median OS was a mere 2.6 months for adults and 3.2 months for children [7]. This study coincides particularly well with CheckMate-143, which as previously annotated showed no improvement in survival when nivolumab was chosen over BV in recurrent GBM. Nivolumab continues to be evaluated in both CheckMate-498, where its efficacy in combination with radiotherapy is being compared against TMZ in combination with radiotherapy in newly diagnosed MGMT-unmethylated GBM, and its companion phase 3 trial, CheckMate-548, where evaluation of the addition of upfront nivolumab to TMZ and radiotherapy in newly diagnosed MGMT-methylated GBM is ongoing.

While these results emerge, many trials continue analyzing individual checkpoint

inhibitors but results remain either limited or disappointing. However, other innovations in immune therapy continue to arise, including different delivery mechanisms to the tumor site, targeted therapies, dendritic cell vaccines, injecting antibodies directly into the tumor, and recombinant immunotoxins. Although most clinical trials have not officially resulted, there is some belief that combining these different modalities of immunotherapy to work synergistically is the future of GBM management [21]. With this in mind, numerous trials remain ongoing and more are enrolling patients each day.

When compared with previous studies analyzing upfront usage of IMT in GBM management, this NCDB analysis corroborates appropriately. Although we initially found an increase in overall survival on univariable analysis, this finding was no longer significant once propensity matching was performed. Interestingly, IMT use in the years 2007-2009 was low and subsequently skyrocketed which contradicts previously annotated phase 2 trials which initially showed improvement in PFS for BV salvage therapy without altering OS. It seems as though clinicians latched onto initial numbers and began using IMT in upfront treatment, and despite RTOG 0825, a clinical trial analyzing upfront BV usage, quickly showing no benefit in overall survival, use of IMT, in this case targeted therapy, continued to rise. Another possible reason for this rapid surge is the increased number of previously annotated clinical trials testing various combinations of immunomodulating therapies that remain ongoing. With this in mind we remain but must recommend against the use of IMT in the upfront management of GBM outside the confines of a clinical trial.

As is typical with these types of analyses, this study was limited by the data provided in the NCDB due to its retrospective nature and inherent selection bias. Compounding this, the NCDB lacks information on toxicity, local failure, which systemic therapeutic agent(s) were used and the number of cycles completed, and KPS and MGMT status were not incorporated until 2010, all of which play an important role in management and ultimately outcome. Also, the specific IMT used is not documented and the category in the NCDB encompasses a broad range of IMT as described in the methods, included targeted therapies. Additionally, salvage therapy is not recorded in the NCDB which plays an important role in GBM survival given the high rates of recurrence. Finally, patients whose clinician substituted IMT for chemotherapy off-label were not recorded in this study as they did not meet selection criteria.

Conclusion

The use of IMT in the upfront treatment of GBM is associated with similar survival as its absence. Therefore, these should be limited to use within the confines of ongoing clinical trials.

Compliance with Ethical Standards

Funding: This study received no funding.

Conflict of Interest: No author present on this article has any conflicts of interest.

Ethical approval: This study does not contain any studies with human participant performed by any of the authors.

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Medical Update
Morbidity and Mortality COVID 19: The Rule of the Artery

The rule of artery and vein is universal in all living beings, and the osteopath must know that and abide by its rulings, or he will not succeed as a healer.

by John Fornace, DO, FACOI, FACC, FASE, FASNC, RPVI
POMA Publications Committee Member

From our training and study of the teachings of Osteopathic principles, the rule of the artery is prominent. AT Still emphasized the effects of external pressure and strain on some artery or vein in causing obstruction, inflammation, and buildup of toxic materials in the lymphatics and cellular systems. Over the decades we have learned that this strain on blood vessels is external and internal. In healthy individuals, endothelial cells help regulate blood pressure, prevent inflammation, and inhibit clotting. These cells also serve as gatekeepers for molecules passing in and out of the bloodstream (the natural flow of the blood). When stressed, the endothelial cells send out a complex array of signals to immune cells and clotting factors, which rush to repair the site.

The endothelium of blood vessels bears the brunt of aging, tobacco, diabetes mellitus, and hypertension. The resultant toxicity to the body is atherosclerosis. Markers of this vascular strain such as troponin and natriuretic peptides, along with cytokines such as IL-6 give information on prognosis but not on the extent of the vascular involvement. Osteopathic physicians follow the prognostic role of the holistic concept that atherosclerosis is a systemic vascular disorder, not just a disease of local coronary or carotid artery vascular beds.

Place him in open combat with fevers of winter or summer and he saves or loses his patients just in proportion to his ability to sustain the arteries to feed and the veins to purify by taking away the dead substances before they ferment in the lymphatics and cellular system.

These principles from AT Still can be applied to the current COVID 19 pandemic with its morbidity, mortality, and measures used to contain the spread of the virus that have affected everyone's life. The same factors of age, diabetes, hypertension, and underlying cardiac disease form a group at high risk for severe COVID 19 disease. From the onset the mechanisms underlying the disproportionate effect of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection on patients with cardiovascular comorbidities remained incompletely understood. Early on, venous thromboembolism complications appeared in a disproportionate amount for what was thought to be a COVID 19 respiratory infectious disorder. Certain children and adolescents then presented with severe disease and arterial manifestations from what is now defined as Multisystem Inflammatory Syndrome in children. Reviewing data from China, where the pandemic first presented, cardiac injury was a prominent feature of the disease, occurring in 20% to 30% of hospitalized patients and contributing to 40% of deaths. A study using an observational database in hospitals from Asia, Europe, and North America confirmed previous observations suggesting that underlying cardiovascular disease is associated with an increased risk of in-hospital death among patients hospitalized with COVID 19.

COVID 19 progresses through an early infection phase, a pulmonary phase, and a severe hyperinflammation phase, effects that result in the substantial morbidity and mortality. Morbidity may occur even from just the early infection phase. Evidence has accumulated that the SARS-CoV-2 may infect the blood vessels with viral elements within endothelial cells and an accumulation of inflammatory cells, resulting in endothelial and inflammatory cell death. The key is direct and indirect damage to endothelial cells that line

the blood vessels, particularly in the lungs. COVID-19 infection causes these vessels to leak and blood to clot. Those changes in turn spark inflammation throughout the body and fuel the acute respiratory distress syndrome responsible for many patient deaths. This "vasculotropic" effect (Still's vascular disturbances) could explain the myriad effects expressed in several organs, including the brain, lung, heart, kidney, intestine, and even the toes (COVID toes). In a small series during autopsy from patients who died from Covid-19 the lungs showed distinctive vascular features, consisting of severe endothelial injury associated with the presence of intracellular virus and disrupted cell membranes. Histologic analysis of pulmonary vessels showed widespread thrombosis with microangiopathy. These findings suggest that SARS-CoV-2 infection facilitates the induction of endotheliitis in several organs as a direct consequence of viral involvement (as noted with presence of viral bodies) and of the host inflammatory response. COVID-19-endotheliitis with endothelial cell injury could explain the systemic impaired microcirculatory function in diffuse vascular beds and their clinical sequelae in patients with COVID-19.

Now we have arrived at the point to locate and establish our observations. We want a clear and unobstructed view of the subject that we are about to explore, that we may arrive at a satisfactory and philosophical conclusion. If an artery cannot unload its contents, a strain follows. All hindrances must be kept away from the arteries, great and small. Health permits of no stoppage of blood in either the vein or artery.

Follow the COVID 19 science for the life-sustaining supportive therapies, antiviral and vascular medications, and vaccine development. Strive for a body that keeps you and your patients at a lower morbidity and mortality risk for the viral infection. Reduce the blood vessel strain by preventing and treating obesity, hypertension, and diabetes with an Osteopathic holistic approach of dietary, physical activity, medical, and socioeconomic methods. Promote masks, distancing, avoidance of large gatherings, improved ventilation systems, and all else that you can to reduce exposure to the virus that "infects" your vascular endothelial cells. Strongly encourage influenza vaccination and then COIVD 19 vaccination when it becomes available. Reduce morbidity and mortality, follow the rule of the artery and protect the critical lining of blood vessels.

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LETTERS TO THE EDITOR: THE IMPACT OF THE COVID-19 PANDEMIC ON MY PERSONAL AND PROFESSIONAL LIFE

Ted S. Eisenberg, DO, FACOS

What's changed and what positive changes will stick.

Ted S. Eisenberg, DO, FACOS
POMA Publications Committee Member

On Tuesday, March 17, as I was seeing prospective cosmetic breast surgery patients in my Philadelphia office, I got a call from Nazareth Hospital: Starting immediately, all elective surgeries were suspended. The restart date was unknown. The hospital wanted to maintain capacity and supplies for the anticipated increase in COVID-19 patients.

This meant I had to notify all of the women who were scheduled for surgery for the following day and in the coming weeks. In addition, I cancelled all office consultations that were already on my calendar.

My hope was that the work stoppage would be temporary, and I decided not to cut back on employee hours. My employees are my front line, and I did not want them to incur any additional hardship.

With the help of my wife, Joyce, I applied for a Paycheck Protection Program loan from the SBA. It was a detailed application, and my wife was a tremendous help. I was approved for a loan on the second round, and it was a huge relief to have money for salaries, rent and utilities. I will be relying on my wife again to complete the loan forgiveness application.

Some of my employees had health concerns that outweighed their coming in to work; others were comfortable coming into the patientless office to answer phones and organize for the eventual reopening.

To accommodate my post-op patients, who I routinely see at one-week, three-weeks and three-months, I offered them telemedicine. Everyone was quite pleased with that option: Many of my patients come from a distance, and they appreciated not having to make the drive. Many also have young children, who were home from school, and this made their lives easier. This was my introduction to virtual care, and I found it to be as effective as an in-person visit. I'll continue to offer this option to patients in the future. I believe it's a boost in the right direction for customer service.

For a week or two, I went into the office for the telemedicine calls, to consult with my staff, and to pick up my mail. When all my post-op patients had been seen, my quarantine began.

Over the next 10 weeks (before Nazareth Hospital reopened for elective surgery) my health was heightened physically and emotionally. Some nights I slept up to eight hours, easily a quarter more than on previous nights when I had to get up by 5 am for a day in the operating room.

I exercised every day on my home treadmill, instead of a couple times a week, which was all I could fit in when I was working full time. I built a balsa wood model airplane, which I had last done when I was 13. (Who has time for that?!) I read hundreds of backlogged articles in plastic surgery journals online, whittling my emails down to 0, and started back at work on a scientific paper. Most of all, I had a great deal of time with Joyce, my soulmate, best friend and wife of 47 years. For me, being housebound with her was like heaven on earth.

I came to appreciate FaceTime and Zoom. What a relief to see my daughter's face when she recovered enough strength post-COVID to FaceTime with me. I had been quite worried when she texted her "final wishes" and expressions of love and appreciation to family and friends for fear she would not recover. Since we weren't able to come in contact during her illness and for weeks after, this was the best we could do to get "close." Fortunately, she has been completely better for months now, and hugs are back on the agenda.

Via Zoom, I participated in two virtual shiva minyans. This is the Jewish tradition of family and friends gathering after a funeral to honor and memorialize a loved one. The hugs were virtual, and I missed the in-person experience,

but I felt like the sharing of memories was enriched because I was able to hear the words of everyone present on the video conference – and they could hear my reminiscences. Although it was different, it was still warm and loving.

During this time, Nazareth Hospital conducted weekly conference calls for physicians on staff, led by Michael Magro, DO, president, and Edward O'Dell, DO, vice president. The conversations about COVID and what was happening in the hospital and the community were frank, informative and extremely reassuring.

I've worked at Nazareth Hospital exclusively since 2001, and I've been very happy there. I've liked operating in the safety of the hospital with the general staff, sensitive and competent nurses, and certified anesthesiologists and nurse anesthetists. And toward the end of May, when the state loosened restrictions on elective surgery and the hospital announced its thoughtful and thorough reopening plans, I was confident that my patients and I would be safe there as well.

In mid-May, in anticipation of the OR reopening, I resumed office hours. I didn't know if women would be comfortable coming into the office when we reopened or what the level of interest would be for cosmetic breast surgery during the pandemic. I only had hope. Much to my surprise and delight, there was a huge pent-up demand for these services.

We established protocols to protect ourselves and the patients. We devised a questionnaire to screen patients when they called for an appointment. Patients were told to wear a mask. No children were allowed; if necessary, women could only bring a person they had quarantined with (if that person was also asymptomatic). On arrival, patients were checked with a non-contact thermometer and a pulse oximeter. Cosmetic breast surgery consultations were scheduled one hour apart so there wouldn't be more than one patient in the office at a time.

We wore disposable gowns, masks and gloves and changed them between patients. We cleaned all hard and soft surfaces between patients as well and installed special air purifiers in strategic locations in the office. When possible, we maintained the recommended 6-foot social distance.

To break the ice in consultation (How odd that the patient and I couldn't see each other's face!) I pointed to an 8-1/2 x 11 color picture of George Clooney in his scrubs from his days on the TV show ER. I told my patients that this was how I looked under my mask – in case they were wondering! I explained that my hair was white now because my dark dye had worn off during the pandemic. The women could relate. One patient said, "You look a lot like George Clooney." "I get that a lot," I replied. Another woman said, "The people who think that should get their eyes checked!" That was a savage burn.

With the office bustling, I needed more help, and my wife agreed to work with me in the office a few days a week. Joyce has done my marketing and social media since I started practice, but it was new for her "to be in the room where it happened"!

Joyce told me that she was moved by my sensitivity and compassion with patients, and she enjoyed seeing a different side of me than she sees when we are in social situations. I would often share about my workday when I came home, but it felt good to me that she was witnessing me in action. It deepened our already significant respect and admiration for each other.

When the hospital set a start date for elective surgeries, I had high intention of getting my patients onto the operating room schedule. My staff worked hard to accommodate the new OR requirements and paperwork, including COVID-testing 48 hours before surgery (in addition to the routine preadmission testing). The first group were surgeries that were urgent (for example patients with implant deflations); the second group were patients whose scheduled surgeries were cancelled when the OR closed, and lastly new elective cosmetic surgeries.

While I enjoyed my downtime during the quarantine, I also missed work. It confirmed what I knew: that I loved my career as a plastic surgeon and wanted to continue working and making a difference in this way for as long as possible.

One of my brother's philosophies (Ron, PCOM '64) around the simplification of life was his belief that what largely matters is that you are happy where you head to in the morning and where you return to at night.

I'm one happy, and lucky, guy.

LETTERS TO THE EDITOR: LESSONS FROM COVID-19

Smit Shah, DO

Looking Ahead at Medicine

Smit Shah, DO
POMA Publications Committee Member

COVID-19 has impacted the healthcare industry in a transformative way across the globe. It has exposed the cracks in the hospital system infrastructure. Due to the limitations in revenue and shortage of supplies, healthcare workers have had to be ever-so cognizant about efficiently using resources. Masks, gloves, hand sanitizers, and other personal protective equipment (PPE) are at the heart of disinfecting and maintaining personal safety. Supplies that were once deemed abundant and easily wasted are now carefully recycled, thus creating less waste and reducing an institution's financial burden. In a way, COVID-19 is forcing an era of efficiency back to the healthcare field. This can be applicable to all of healthcare where we need to be more mindful of sustainability of resources going into the future.

On a truly positive note, the hardships of COVID-19 is fostering team-work, and a true interdisciplinary approach to patient care as nursing, primary physicians, and specialists are coming together to make patient-centric decisions. There is increased respect amongst the healthcare workers, for the roles they serve and their perseverance, during this challenging and dangerous time. Most importantly, empathy for the patients is re-emerging. It is often heartbreaking to watch COVID-19 patients endure their journey in the hospital without personal support due to restricted visitation policies to curb further spread of the virus. In turn, it is the healthcare staff that stands up to fill in for the families and provide support for the patients. This current time has opened many providers' eyes back to practicing pure medicine - one that treats the patient as an individual and not just another case.

POMA'S PERSPECTIVE: POMA ADAPTS

Gene M. Battistella, DO

Gene M. Battistella, DO

COVID-19

It is still hard to fathom how five simple letters just several months ago now prompts a Google search that is a constant in our daily lexicon and impacts every aspect of each of our lives. It seems not a moment goes by that COVID is not uttered in association with someone, somewhere or something. This is certainly not the type of year I had envisioned for my POMA Presidency, but none of us envisioned this year of COVID. The pandemic continues to impact everything we are experiencing socially, personally and professionally. We've all been challenged to become better versions of ourselves to overcome what everyone continues to call our "new normal." This assertion should not be simply accepted, but again how we react, adapt and evolve will determine each of our futures. POMA has been no exception.

I still am in awe of the amazing POMA Virtual Clinical Assembly that occurred this past Spring, implemented with dedication, collaboration, innovation, and perseverance in a collective effort by the POMA Staff & the POMA Clinical Assembly Committee. "Necessity is the Mother of Invention (Innovation)" was never a more appropriate quote. The enthusiasm I witnessed during the virtual presentations with the speakers and moderators interacting with the attendees in real time was incredible! This leap into the future with technology accelerated by the COVID pandemic continues with the normal day to day activities of the POMA, educational events, mentorship and outreach to our Students , Residents and Young Physicians in Practice as well as our Members, advocacy efforts and governance with the POMA Board, Committees and Leadership all occurring in a virtual format, has likewise been astounding to me and certainly something I don't think we would have nor could have accomplished not that long ago. This is a testament to "Team POMA" that continues to transform itself for the benefit of the Association and ultimately as with everything we do, for our members and our patients.

With the advent of COVID, in addition to our continued communications with our members via the POMA Newsletter and the Under the Dome Newsletter on advocacy and legislative issues, offered in multiple formats, including social media, we have also added the POMA COVID Newsletter, providing needed up-to-date information and resources for our members.

Furthermore, we are nearing the end of our three-year POMA Strategic Plan encompassing our 4 Pillars of Communication, Community, Education, and Influence. The development and realization of each of the Pillars objectives have continued to transform the POMA and was achieved with the input from each of you, the Osteopathic Physicians of the Commonwealth of Pennsylvania, for whom we are all honored to dedicate our service. As we now look to the future, we will be once again be looking to each of you to help us formulate our next POMA Strategic Plan. This plan will continue the progress of the POMA and our POMA Mission, which is "To promote the distinctive philosophy and practice of Osteopathic medicine in Pennsylvania for our members and their patients." This next strategic plan undoubtedly will also include accommodations and reference to COVID and the impact on the Osteopathic Profession in Pennsylvania.

In closing, I Thank You and am grateful to you, even more so during this COVID pandemic and all that we continue to encounter in our complicated world, for your continued membership in the POMA, your dedicated care of your patients and your ongoing example to all that witness your commitment to "Live each day as an example of what an Osteopathic Physician should be" as recited in our Osteopathic Pledge of Commitment!

Please stay safe, take the opportunity to enjoy quality time with your family and take care until we can all meet together as an Osteopathic Family once again!

POMA'S PERSPECTIVE: GOING VIRTUAL

Diana M. Ewert, MPA, CAE

Diana M. Ewert, MPA, CAE

Imagine you are gearing up for POMA's largest event of the year. The team is working overtime to ensure speaker information is correct. Looking at the graphic images we want incorporated into registration materials. Ensuring exhibitors have information about shipping materials and sponsor activities. Really deep into the heart of a program that goes beyond education that includes changes in leadership, committees, and the overall governance of the association through the House of Delegates.

Imagine you have a team that is used to an office environment. Getting used to processes completed by hand being done electronically and stored in megabytes and not paper filed in cabinets. Becoming more comfortable with the mantra that technology should work for us, we shouldn't work for technology. People who look forward to seeing members face to face and having that annual conversation about spouses and children and grandchildren.

We were in a grove. This would be my third Annual Clinical Assembly and conscious of the demands, I met my family in Texas to spend a few days relaxing on the coast. Within those five days in March – a mere five days – everything changed.

POMA is fortunate. I was given the directive to improve and invest in our infrastructure the moment I accepted the position as your chief staff officer. The goal (as I shared with the team repeatedly) is to ensure that technology worked for us, that we did not work for technology. We moved from individual personal computers to laptops and docking stations. We added dual screens to increase efficiency. We moved from a land line to VOIP. We added remote access to the laptops that allowed the team to log into the network as if they were in the office. Access to data files was imperative. We started using an association management system and accounting system that were cloud based. I thought we would need this should inclement weather keep us from safely getting into the office. I had no idea how well these changes would serve us during the pandemic.

POMA carried on. We had been discussing the production of online CME for some time but just hadn't pulled the trigger. COVID sped the process where we were not only pulling the trigger, we were doing so in a very compressed time frame. It wasn't just a one-time educational program. We knew this program was important since 2020 is a licensure renewal year. Ensuring any osteopathic physician could earn the credits required to keep their license was critical driver. Everything we do in conjunction with the Clinical Assembly would now be done virtually. Governance, elections, officer installation, passing the gavel, recognition… it all moved to a virtual platform that required training, testing, adjusting, and implementing. We did it and did it from home. We have twice weekly virtual team meetings. I like to say we Dory-ied the hell out of the situation (as in Disney's Dory who just keeps swimming).

However, without YOU, we would be having a different conversation. Without the foresight of the leadership to invest in our technology infrastructure, without Clinical Assembly Committee who worked tirelessly with the speakers in converting content, without the leadership of the board who were willing to adapt, it wouldn't have happened this way. Your membership matters.

We're not sure what the future holds, and I don't believe there is a normal to return to. We are sure that our leaders, our members, and the profession will rise to address what comes next and #TeamPOMA will be right there with you.

POMA'S PERSPECTIVE: EARLY ADVOCACY EFFORTS

Pamela S.N. Goldman, DO

Pamela S.N. Goldman, DO, MHSA, FACOI

How Far We've Come

On March 17, 2020, on behalf of the Pennsylvania Osteopathic Medical Association (POMA), I had the opportunity to speak on a focus group with Senator Pat Toomey and his staff in regard to the front-line needs and observations early in the pandemic. We shared four key areas of concern outlined below.

PPE and Testing Supplies

First, we were able to express concerns on lack of personal protective equipment (PPE). There were initially concerns on adequate N-95 mask supplies, gowns, and face shields. Even at this early date, the normal supply chain was exhausted and limited. As we learned, healthcare workers with repeated exposure to SARS-CoV-2 positive patients were at higher risk of succumbing to the virus, many of which may not have had adequate PPE.

Access to testing kits was a big concern, including if there was a special testing kit or specific viral transport medium. Many offices were exhausting their supply of viral medium used during a typical influenza season. There was a concern about running out of testing materials and seeking guidance on who was most appropriate to test. We advocated to quicker turn-around times for test results. In early March, there were only two testing lab centers where all tests were sent with initial capacity of 2,000-3,000 tests per day that quickly ramped up to 10,000-20,000 tests per day by the end of March. As with other public health crises, there were concerns regarding contact tracing as well since many people who presented with symptoms may not have traveled to an area of high prevalence of cases.

Limited Liability Protections

On April, 15, 2020, I sent a letter to Governor Wolf requesting consideration for immunity for liability while our physicians are fighting on the frontlines of the coronavirus pandemic for the duration of the Executive Order. POMA supports PA Senate Bill 1239 which would provide for civil immunity for healthcare workers and businesses, except in cases of gross neglect. As a physician, you would have immunity in instances where PPE, supplies, or equipment shortages prevented you from doing your job.

Workforce Challenges and Quarantine

Ongoing challenges include workforce issues with many healthcare workers with direct contact with positive patients and regulations for quarantines. Even to this day, government agencies that make recommendations to health departments on how to protect the public cannot fully agree on who should be quarantined and for how long, who should be tested and when.

Physician Compensation for Virtual Visits

Lastly, we shared the need to compensate physicians for telehealth options. Within the week, under the 1135 waiver, CMS determined they would compensate physicians for doing telehealth remote visits as if they were in-person visits. This later extended compensate physicians for non-video, telephonic services. Through the end of 2020, CMS will continue to pay for telehealth. We anticipate this virtual patient interaction model will continue to be paid for, albeit with modifications into the future.

Other healthcare associated representatives shared the need for professional liability coverage, economic support for private practices and healthcare system infrastructure support, and appropriate public health messaging. These key areas affected by the pandemic have been addressed on the state and federal level in various bills.

POMA continues to provide current information to our physicians in this changing healthcare landscape and communicate ongoing legislative advocacy efforts. Through the weekly COVID Newsletter compiled by lead-

(continued on page 30)

Immunotherapy in the Up Front Management of Glioblastoma *(continued from page 18)*

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Gene M. Battistella, DO, Installed as 109th President of the POMA *(cont'd from pg 7)*

Now I'd like to focus again on our family here at the POMA. Change is inevitable and it is how we adapt to change, embrace it and use it to move forward that makes all the difference, not only for ourselves, but for the good of our profession, our members and ultimately for our patients. We see this constantly and now most especially as we are incorporating more technology into our practice of medicine and meetings, such as we are virtually tonight and with this Clinical Assembly. In our new world of travel restrictions, social distancing and shelter in place it, is now more important than ever that each of us to continue to provide individualized, attentive, humanistic and compassionate care to our patients – they deserve it! This is our Osteopathic heritage and we need to maintain that focus for the legacy of our profession and for our patients. They seek the difference that Osteopathic physicians provide. Not just in OMT but also in hands-on care and diagnosis on every visit with true compassion and by "touching" every patient on every contact, not just physically, whether it be in the office, the hospital or even in our virtual contacts with them.

The POMA leadership and board has continued the last several years to strengthen and demonstrate these tenets and to provide more value to membership through our strategic plan incorporating four pillars: Community, Communication, Education and Influence.

Community: Strengthening our membership base including contacts with our students, interns, residents and our members and even non-members to show them all what POMA can offer to them. We need to welcome and encourage membership. Incorporation and continued efforts of Districts to have innovative, local CME and community events for the benefit of members and patients alike, in addition to more regional or statewide CME such as this conference, and again this year now, virtually. Although more and more education is being provided online and in other formats, it remains important, even in these virtual interactions we maintain that personal, human experience. POMA is providing resources financially and with staff to help us to do all that we can to advance these goals.

Communication: Advancements have been extraordinary over the last several years including most notably this virtual meeting and again this clinical assembly! Not to be overlooked, POMA has developed a new webpage, a presence on Facebook and Twitter among other social media platforms, and the POMA mobile app – it is truly amazing to follow colleagues, lectures at this conference, track CME, and renew membership among other things. Our POMA newsletter is available in multiple formats and our most recent addition this past year, Under the DOme, our digital newsletter providing updates on advocacy efforts with the latest happenings in Harrisburg affecting our practice of medicine and our patients, continues to be improved upon. These publications have all helped provide timely, pertinent information relevant to our members!

Education: This Annual Clinical Assembly, as well as other educational opportunities across the state, including the District 8 Winter Seminar and other districts meetings, PCOM, LECOM and POFPS, supported as much or as little by POMA as that particular group may require. Innovation as already noted and providing programs for licensure requirements and education, including child safety and opioid education, and proudly through much effort recent provisional accreditation to provide ACCME credits for those members in need of such, demonstrating another benefit of POMA membership.

Influence: "Goal to provide inspiring information that moves people to action." Much has been going on with legislative efforts as we've discussed already extensively at this board meeting tonight. Scope of practice, telemedicine, prior authorization streamlining, balance billing, state false claims act, modifier 25 and change of venue are just the highlights of the multitude of issues being followed and acted upon on behalf of our members by POMA and our lobbying efforts in Harrisburg, as well as locally. Most recently, letters have been submitted and advocacy efforts directed to the PA Supreme Court, as well as Governor Wolf for malpractice leniency during the COVID-19 pandemic as our physicians battle on the frontlines! All of these represent issues where grassroots efforts at the local level are most important. All of you have a voice with your local legislator, not just representing yourself personally but also as leaders in your community to represent the patients and others of whom you care on issues that are important to them and their medical well-being. VoterVoice

is a software product that can and will be used judiciously by POMA to "Rally the Troops" so to speak on specific issues of need to involve us all quite personally in this process.

These are all just a small sampling of all that POMA has been involved and will continue to be involved with to care for and strengthen our POMA family. But we need you! Each of you has unique and personal skills, relationships and capabilities that can be cultivated for the benefit of all of our members and patients. I know here tonight I'm preaching to the choir, but please talk to others in your districts to encourage them to get involved and share some of themselves with the rest of our family. I can tell you that giving back to the profession and the POMA has afforded me this wonderful career of Osteopathic medicine and with the friends and relationships that I have made has changed my life forever.

Finally, I will leave you with quotes from some 2 of my favorite philosophers:

Jimmy Buffett:
"Go Fast Enough to Get There but Slow Enough to See"

Frank Sinatra:
"The Best is Yet to Come and Won't that be Fine"

Thank you and I will be looking forward to being with you all in person again soon and to working with ALL of you in the year to come.

OUT OF MY MIND *(continued from page 11)*

definition now included phone calls. CMS swept aside their previous rules, regulations and HIPAA concerns, and promised full reimbursement due to the pandemic.

I share with you my experience as a patient during this timeframe. I was informed via email my appointment with my podiatrist was cancelled until further notice. I was informed via email my appointment with my nutritionist was cancelled until further notice. Take away? Diabetic foot care is optional. Nutritional diabetic counseling is optional. My response? If I don't need routine nutritional counseling now, I don't need nutritional counseling in the future. If I don't need routine diabetic foot care now, I will need it only on a PRN basis in the future.

My latest MRI scans revealed an increase in size of my renal calculi. Additionally, a new formation was noted. I was informed via email that a urologic APN was going to conduct a telemedicine visit with me. At the appointed time, my phone rang, and the APN greeted me. I questioned the results of my latest 24-hour collection, and she reviewed them with me. I asked that my results be posted in my chart so I could review them. I was assured they would be posted. This never happened. I was then informed that my pharmacy would be contacted, and calcium citrate would be ordered. This never happened. I then reviewed the notes of this encounter online and was shocked to see that calcium carbonate was to be ordered. I emailed the APN and questioned this. I received a response saying that the note was in error and calcium citrate would be ordered. Nothing happened. I emailed, confirmed the dosage, and contacted a pharmaceutical supply house to order the OCT medication. Days later a prescription was sent to the pharmacy. I had to cancel it.

I then had telephonic appointments with my internist and cardiologist. My internist and cardiologist are excellent physicians. Old school. They observe, auscultate, percuss and palpate. They recheck vital signs. Obviously, that could not happen via telephone. I provided them with my blood pressure, heart rate, O2 saturation, etc. I was due for my quarterly A1C and conducted this at home. In addition, I informed my cardiologist of new and enhanced symptomatology. He adjusted my medicine according to my report. Thankfully, he did exactly what I would have. No awkward discussion. Both assured me that when we next meet, appropriate labs will be ordered. If not, I will order them.

Take away? My telemedicine visit with the APN was less than adequate. I will address this with the urologist when I next see him. My appointments with my internist and cardiologist were successful as I was able to provide them with the necessary information. Would they have had the same value if I were a layperson?

Additionally, two of my wife's prescriptions needed reordering. Rather than resorting to email tag, I simply called the pharmacy and ordered them.

Part Three:
What Our Patients Have Learned

"We come to work for you, you stay home

for us." We have taught our patients that emergency rooms are scary places, filled with disease and to be avoided. They listened. Patients stayed home and experienced cardiac events, neurologic events and metabolic crises. We have yet to understand the morbidity and mortality imposed upon the public.

We have also taught patients that their vision of the caring, kind and compassionate PCP may no longer be valid. Sick patients were shunted to unknown caregivers, who may or may not have had access to appropriate medical records to receive their immediate care. They have also learned that this care may be given to them by nonphysicians. Have we trumpeted our own eventual downfall?

Yes, patients will return to our offices. Their insurance will instruct them to. Medicare and Medicaid patients will return to the office as many are unwelcomed elsewhere. Hopefully, the majority will forgive their banishment. Yet, some will decide that medical help and guidance should be reduced to an "as needed basis" only. Continuity of care will not exist for them.

We have also taught them that medical care does not necessarily mean physician care. They will remember the physician assistant or nurse practitioner who attended to them during our absence. If they received less than adequate care from our replacements, they may never know.

Many practices are now on the edge of financial collapse. Many employed physicians have accepted reduced pay. Others, albeit a minority, kept their doors open using staggered scheduling and separate entrance and exit points for their patients. Initial screening was utilized also, allowing them to treat patients and staff.

I wonder what lessons our students and physicians in training have learned from this experience. How many will now go into emergency medicine or join the staff of walk-in clinics knowing how office-based physicians have recently utilized such services?

In conclusion, will the projected shortage of physicians in 2033 be as great as projected, or will other lesser trained practitioners be more sought after? What have we really taught our patients?

Epilogue:

Have We Failed?

There is a wonderful quote from Raymond Chandler's Philip Marlowe: "From 30 feet away she looked like a lot of class. From 10 feet away she looked like something made to be seen from 30 feet away."

Doctor my Doctor, what have we done?

POMA'S PERSPECTIVE: EARLY ADVOCACY EFFORTS

(continued from page 26)

ership and staff, we were able to provide key information and updates that impacted our members during the most challenging part of the pandemic. As we gain more knowledge on the public health impact of the virus and share legislative successes and challenges, POMA will continue to advocate for you.

We Want to Hear From YOU!

The theme of the next issue of *JPOMA* will be "Life Goes On" and will focus on "the new normal" and how we are continuing to cope with the changes post-COVID. What have you had to do different? What changes are you keeping to help your patients?

Put your thoughts on paper and send them to us! We value your input and respect your privacy. If you wish to remain anonymous, we are happy to remove any identifiers from your piece.

Submit entries or questions to Mark Abraham, DO, JD, JPOMA Editor via email to *publ@poma.org* ASAP!

POMPAC

What is POMPAC?

POMPAC is POMA's political action committee and the political voice of the osteopathic profession in Pennsylvania.

What does POMPAC do?

POMPAC takes in monetary donations from DOs across the state and contributes those funds to targeted state candidates for public office.

Why do we need POMPAC?

POMA has many friends in the state elected office holders that support DOs and the excellent patient care they provide. POMPAC provides monitary donations to assist targeted candidates with their election efforts.

How can I contribute to POMPAC?

Contributing to POMPAC is simple. There is an online option and a paper option to make regular contributions or a one-time contribution. Please note, contributions are not tax deductible.

Have questions?

Please contact asandusky@poma.org or call (717) 939-9318 x111.

CME Quiz

Name _____

AOA # _____

1. Standard of care for Glioblastoma is currently surgical resection with adjuvant chemoradiation.
   a. True
   b. False

2. Glioblastoma is the most common adult CNS malignancy.
   a. True
   b. False

3. Immunotherapy use in the upfront management of Glioblastoma results in an increase in progression free survival and overall survival.
   a. True
   b. False

4. Early on, venous thromboembolism complications appeared in a disproportionate amount for what was thought to be a COVID 19 respiratory infectious disorder.
   a. True
   b. False

5. Reviewing data from China, where the pandemic first presented, cardiac injury was a prominent feature of the disease, occurring in what percentage of hospitalized patients and contributing to 40% of deaths?
   a. 10%-20%
   b. 20%-30%
   c. 30%-40%
   d. 40%-50%

To apply for CME credit, *answer the following questions and return the completed page to the POMA Central Office, 1330 Eisenhower Boulevard, Harrisburg, PA 17111; fax (717) 939-7255; e-mail cme@poma.org. Upon receipt and a passing scores of the quiz, we will forward 0.5 Category 2-B AOA CME credits to the AOA CME Department and record them in the POMA CME module.*

Answers to Last Issue's CME Quiz

1. False
2. D
3. D
4. D
5. B

(Questions appeared in the June 2020 Journal.*)*

Welcome your patients back — safely.

As practices reopen, extra precautions in patient care will be necessary. ISMIE's Risk Management team offers guidance on risks to consider when reopening your practice — and how to mitigate them to help ensure the safety of patients and healthcare professionals.

Read the full guide at ismie.com/ReopeningYourPractice.

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