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### COVID-Centered Updates to the GaVeCeLT Recommendations for Vascular Access

#### Announcer Introduction

You're listening to ReachMD, and this is *Vascular Viewpoints*, sponsored by Becton Dickinson, advancing the world of health.

Here's your host, Dr. Matt Birnholz.

Dr. Birnholz:

Coming to you from the ReachMD studios, this is a special COVID-19 addition of *Vascular Viewpoints*, and I'm Dr. Matt Birnholz. Joining me to share insights on the recently updated GAVeCeLT recommendations for vascular access in critical care settings is Dr. Mauro Pittiruti, surgeon and professor at the Catholic University Hospital in Rome. Dr. Pittiruti is founder and President of the Italian Group of Central Venous Access, an expert consensus group responsible for issuing the internationally renowned GAVeCeLT recommendations that we'll be reviewing today.

Dr. Pittiruti, welcome to the program.

Dr. Pittiruti:

Thank you.

Dr. Birnholz:

So, to start, let's get a sense of the ground situation in your hospital and others around you in Rome. How have you and your colleagues been coping with the extraordinary challenges facing you throughout the pandemic's spread in Italy?

Dr. Pittiruti:

Well, it was really a very relevant challenge for us and for our hospital more than any other hospital in Rome, and our hospital was dramatically changed by this because we had to reorganize most of our units, reorganize the intensive care units, reformulate new protocols, rethink about several procedures, and relocate several human resources, as you may expect, so the doctors who had very little experience in the field of intensive care were suddenly becoming intensivists, and this has affected also, of course, our vascular access team.

Dr. Birnholz:

Yes, and on that note, given the updated recommendations that came out of many of these changes for vascular access and the experts from your GAVeCeLT group that issued the changes, it is clear that many, many steps of evolution were needed in a very rapid setting within ICUs to better respond to the special needs of COVID patients, as you mentioned. How did the intensive care unit itself change fundamentally throughout this developing ordeal?

Dr. Pittiruti:

Well, it changed as a whole intensive care unit. Usually we do procedures whose goal is to have a perfect clinical outcome and to show effectiveness of the procedure and also to reduce the complications to the patient. Suddenly the most important thing was also to avoid waste of resources, to avoid contamination, and last but not least to protect the operator. Please remember that at this moment at least 130 physicians and at least 35 nurses have died in Italy because of this pandemic, and this very, very important burden, it must be

remembered.

Dr. Birnholz:

It's very sobering statistics, and they're being shared across the world, unfortunately, in terms of the need to, in real-time, make rapid changes to maintain safety for the operators, to maintain efficiency of resources. As the pandemic first entered Italy's hospitals and then spread, what were some of the very first changes that had to be made in order to help maintain safety and efficiency?

Dr. Pittiruti:

Well, first of all, very strict control on any patient who will come with a fever in our emergency room or in our hospital even if not labeled as COVID, which was really very important, a very great challenge for us, meaning that any procedure was somehow conditioned by first exam on the patient to see as well the patient to understand whether it was positive or negative. The first word that we'll get at after several hours, so there were situations which we had to operate or to make procedures just with the suspicion of COVID disease. And, of course, all of these suspected COVID patients had to be coped with exactly the same precautions of the confirmed COVID patients, and this was an incredible challenge on the resources of the hospital in terms of protective devices for the operator, personal protection devices, and in terms of time because, of course, if you have to dress yourself because you do a vascular access, the whole maneuver will take longer time. At the same time, you have a higher quantity of patients coming, so the ratio between the number of procedures and the length of each procedure will have become critical.

Dr. Birnholz:

For those just tuning in, you're listening to a special COVID-19 edition of *Vascular Viewpoints* on ReachMD. I'm Dr. Matt Birnholz, and with me is Dr. Mauro Pittiruti from the Catholic University Hospital in Rome. We're focusing on the updated GAVeCeLT recommendations, for which he's the lead author, with special focus on vascular access improvements in response to the coronavirus pandemic.

So, Dr. Pittiruti, continuing where we left off, I want to consider some of the many practical tips that were captured by the GAVeCeLT group's updated recommendations, and one area that received a lot of attention concerned the evolving use of PICC lines for central venous access in COVID patients. How did peripheral insertions gain such a special foothold in intensive care settings throughout the pandemic?

Dr. Pittiruti:

Well, obviously the challenge was not only in how to do the maneuver but also how to choose the device, and we had a very important role in this pandemic in our hospitals in Italy for different insert a central line for PICCs because the PICC was associated with important advantages in a COVID patient. Consider that the COVID patient is often at a critical point in their respiratory care. There are patients who have noninvasive ventilation or CTAP, or they have the problem of taking care of the secretions in the tracheal organ which are heavily contaminated, so to place a PICC it needs to be far away, reasonably distant from the source of contamination and at the same time from the problems related to respiratory care—in other words, they have, for instance, a face mask or something which may make the jugular approach or subclavian approach more risky for both the patient and the operator.

Dr. Birnholz:

Right, and that speaks to what you had been talking about earlier about some of the many new precautionary measures that your teams had to take as a way to maintain a little bit of distance from the chest, the mucosa, the secretions from patients. Can you speak a little bit more specifically to the precaution strategies that came out of the GAVeCeLT group recommendations which have been effective so far?

Dr. Pittiruti:

Yes, at the very beginning of this pandemic, there was some confusion about the real role of the surgical mask or of the filtering facepiece, and it became clear very, very rapidly during the pandemic that the surgical mask was not enough. A surgical mask will not protect the operator during the maneuver. There were two other critical things to be adopted. One is the eyes' protection, which means eyeglasses or special glasses, etc., because it was immediately apparent that a lot of operators will get droplets into their eyes via the conjunctival route, and that will be serious contamination. And the other problem is the standard surgical masks do not protect at all. The operator must have a filtering facepiece, an FFP as they say, which showed they filter at least 94% of the air, and this is an active protection for the operator; but at the same time we must protect the patient, which means that when we do this vascular access procedure, we wear a double mask, a filtering facepiece below and over the filtering facepiece which might be usually typically an N95, which corresponds in Europe with the FFP2. Above this we wear a surgical mask, and basically, the surgical mask protects the patient,

the FFP2 protects the operator, and you have to wear both.

Dr. Birnholz:

And I want to take a moment to recognize that the lessons that you and your colleagues have learned to help protect the operators as well as to help protect the patients were very, very hard lessons to learn in a time when no information was really available and no experience was out there to be able to help guide you, but those lessons that were learned did make a massive impact across the world for others in terms of best practice for vascular care. Can you speak to some of the international collaborations that have been going on since the pandemic reached Italy and beyond for you and your colleagues in Rome, what you've been able to instill with your counterparts overseas, such as in the US, to help improve vascular access care for COVID patients?

Dr. Pittiruti:

As far as I know, the attention to vascular access in Italy has always been very, very strong, and it's not by chance that the only popular documents which have been issued on vascular access in COVID patients come from Italy. At this moment I know of at least 3 different societies in Italy which had to deal with the problem of vascular access in COVID. For instance, not only GAVeCeLT but also the Italian Society of Anesthesiology Intensive Care, they have released a recommendation which are basically very, very similar to GAVeCeLT. On the contrary, I don't know of anything like this in the UK or in Germany or in France or not even USA, so we decided to spread our documents in different languages all over the world so to increase the awareness of the problem of vascular access in COVID. There are many, many aspects. It's not just the selection of the line, but the problem was also in the insertion technique.

Most of the practice of central venous access in the USA is still based on radiology, meaning that after central venous access insertion you are expected to take an x-ray and check whether there is a hemothorax and check the tip location. But I think that COVID may change this, because once you have a vascular access inserted in a COVID patient, you don't want to make needless chest x-rays. You don't want to have the risk of contamination of having the x-ray apparatus come into the bed with the patient and take an x-ray, or even worse to take the patient to the x-ray department. What you want is to have a very safe, clean, and accurate way to verify tip location and to rule out hemothorax using ultrasound and using intracavitary EKG. As a matter of fact, they are always to be preferred because they see results, but in this situation, they were also associated with an incredibly lower risk of contamination. So, this is one thing that could change somehow the practice of medicine to venous access.

Dr. Birnholz:

And, Dr. Pittiruti, that is one of the most important representative takeaways I think that comes out of the GAVeCeLT recommendation updates, the fact that many of the practices or paradigms within intensive care units, if they involved multiple touchpoints, needed to change. The outmoded methods which might have still been in practice cannot function in the context of overloaded ICUs with COVID patients, and so I think it's incumbent upon us to thank you and extend some gratitude for that message, among many others, to help those in other European countries and in the US improve their practices to extend the safety of the operators and patients.

Dr. Pittiruti:

Thank you. Now with the COVID emergency, the motto "make it simpler, make it faster, make it easier" is becoming more and more important even in our everyday life in the intensive care unit.

Dr. Birnholz:

Perfect takeaway in mind. With that I very much want to thank my guest, Dr. Mauro Pittiruti, for joining me to share these insights on vascular access care in Italy's intensive care units throughout the coronavirus pandemic.

Dr. Pittiruti, it was great having you on the program. Thanks so much.

Dr. Pittiruti:

Thank you.

### Announcer Close

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