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## MSA-COA 2024 PRE-CONGRESS WORKSHOP ON ULTRASOUND-GUIDED VASCULAR ACCESS: ENHANCING SKILLS FOR SAFER PROCEDURES

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Ultrasound technology has revolutionized clinical practice and patient care in the modern healthcare. It provides non-invasive and radiation-free techniques for various diagnostic and therapeutic procedures. Among its many applications, one of the most impactful has been its use in guiding vascular access.

By enabling real-time visualization of blood vessels and nearby structures, ultrasound-guided vascular access helps clinicians identify the best insertion sites, thus reducing the risk of complications such as arterial puncture, haematoma, haemothorax, and pneumothorax.

This technique streamlines the procedure, resulting in fewer attempts at successful cannulation, improves procedural efficiency, and minimizes the risk of catheter-related infections.

During the 2024 Malaysian Society of Anaesthesiologists (MSA) and College of Anaesthesiologists (COA) Annual Scientific Congress themed My Anaesthesia 2024: Where Science Meets Art, the significance of this technology was highlighted through a pre-congress workshop, Ultrasound-Guided Vascular Access, held on 1<sup>st</sup> August 2024 at UiTM Sungai Buloh Campus. The workshop, hosted by the Department of Anaesthesiology and Intensive Care, UiTM, was a full-day event comprising a series of lectures and hands-on sessions.

The workshop brought together 27 healthcare professionals across Malaysia and Brunei. It aimed to provide them with a structured, practical approach to utilizing ultrasound for vascular access, particularly in challenging cannulations.

The workshop began with a brief welcome from the organizing committee chairmen, Dr. Shahridan Fathil and Dr. Isqandar Adnan, followed by an opening address by the esteemed Prof. Dr. Karis Misiran. This was succeeded by a series of comprehensive lectures, beginning with Dr. Rusnaini Mustapha Kamar's presentation on the fundamental physics of ultrasounds, which included "in-plane" and "out-of-plane" techniques. Dr. Haslan Ghazali provided an update on the latest guidelines on ultrasound-guided cannulation, while Dr. Lim Teng Cheow covered relevant anatomy via sonography.

The lectures continued with Dr. Shahridan discussing ergonomics, sterility, and preparation for ultrasound-guided venous access procedures, followed by Dr. Nur Hafiizhoh Abd Hamid, who focused on ultrasound-guided cannulation in paediatric patients.



The morning session smoothly transitioned to hands-on training, where participants, divided into smaller groups, rotated through various stations to practice ergonomics, preparation techniques, and real-time cannulation under the guidance of an expert panel of facilitators.



Following a lunch break, the afternoon resumed with Dr. Ahmad Afifi Mohd Arshad delivering a lecture on the selection and use of peripheral, central, and arterial cannulas and catheters. Dr. Mohamad Hanafi Mohd addressed the critical aspects of post-cannulation care and catheter removal.

These lectures were complemented by more hands-on training, focused on the placement of central venous, dialysis, peripheral, and arterial lines, offering participants the chance to refine their skills with real-time feedback. The workshop concluded with an evening tea followed by closing remarks emphasizing the important role of ultrasound-guided vascular access in modern medical practice.

The workshop provided the participants with an invaluable learning experience, allowing them to refine their skills in utilizing ultrasound for vascular access. Ongoing advancements in artificial intelligence and portable ultrasound devices are expected to refine vascular access techniques further, making them more precise and safer for patients. Therefore, training through workshops to acquire these skills is essential, especially in the context of an evolving medical practice.