Special skills in: Cardiothoracic critical care

Many of the key milestones in critical care saw first light in cardiothoracic intensive care units (CTICUs). The pulmonary artery catheter, extracorporeal circulatory support (ECMO) and critical care echocardiography are prime examples of monitoring and therapeutic interventions that evolved initially to fulfil the complex needs of the cardiothoracic surgical patient and are now part of standard critical care practice. Treatment of severe acute cardiorespiratory failure with ECMO takes place almost exclusively in tertiary cardiac intensive care units in the UK, which demonstrates the unique skillset that CTICUs possess.

Throughout my medical career I have been fascinated by cardiovascular physiology, the impact of disease in the cardiorespiratory system and the ability to apply pharmacological or mechanical interventions to restore normal physiology. My training therefore always gravitated towards fields that fulfilled these interests with attachments in cardiology and respiratory medicine during my medical training rotation and jobs in cardiothoracic centres during my anaesthesia and critical care training.

It has been particularly rewarding to witness in recent years how our ability to fully support the function, and protect the heart or the lungs from further injury, has increased significantly with the CTICU’s crucial role at the front line of the H1N1 influenza pandemic being a clear example.

The last few years have also seen leaps forward in the ability to use ultrasound at the bedside to assess the structure and function of the cardiovascular system. CTICUs were pioneers of the use of this technology and continue to lead research in echocardiography and point of care ultrasound.

Advice for interested trainees

The UK curriculum for a CCT in intensive care medicine requires trainees to spend time acquiring skills in cardiothoracic ICM. However, additional time may be required to obtain sufficient experience and accreditation in critical care echocardiography (both transthoracic and trans oesophageal) and in extracorporeal mechanical support which are skills increasingly considered essential for a consultant post in CTICU.

An out of program experience or post CCT fellowship in a cardiothoracic centre in the UK or like in my case overseas can provide the additional training required. There is always significant demand for these positions and early application is advised, especially for overseas positions.

A career in cardiothoracic intensive care is both stimulating and challenging. Cardiothoracic critical care will continue pushing the boundaries of intensive care in order to meet the requirements of changing patient demographics and expectations.

Useful resources:
Cardiothoracic intensivists in ACTA: http://www.acta.org.uk/cia/welcome.asp

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