

A student selected component (SSC) in applied forensic medicine and pathology: ‘the language of trauma

REFLECTION

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ABSTRACT

Summary

Forensic medicine and forensic pathology are rarely taught at undergraduate level in medical schools in the UK. Student Selected Components (SSCs) offer a means by which subjects that are ‘beyond the core’ can be explored, and this article describes one such SSC in forensic pathology in which students explored ‘the language of trauma’ relevant to safeguarding vulnerable patients.

Relevance

Medical students will be exposed to injured patients in whichever setting they practice medicine, be it in the community or in secondary care settings. Being able to identify and assess wounds and injuries, and their distribution on their patients, is essential not only for patient management purposes, but also for meeting safeguarding needs..

Take Home Messages

Although most medical students will not become forensic physicians or forensic pathologists, all doctors have an important safeguarding role, requiring them to be able to identify and assess wounds and injuries suggestive of assault. An SSC that emphasises the forensic assessment of wounds and injuries provides a useful way in which medical students can learn ‘the language of trauma’ relevant to their future clinical practice.

INTRODUCTION

Forensic medicine is that branch of medicine which bridges the interface between medicine and the law. Forensic pathology is a subspecialty of histopathology and is concerned with the application of pathological principles to the medicolegal investigation of death. Medical students used to be taught forensic medicine and forensic pathology, but it has been recognised for decades that these subjects have all but disappeared from undergraduate curricula. (1)

The General Medical Council (GMC) expects all medical graduates to be able to identify signs and symptoms of abuse or neglect and be able to safeguard vulnerable patients of all ages, (2) and the Royal College of Pathologists (3) considers that the ability to identify injuries suggestive of physical abuse would be a 'meaningful addition' to the undergraduate curriculum. A convenient way in which students could learn about the pathology of trauma relevant to their future safeguarding role – protecting patients at risk of abuse or neglect – is through teaching on forensic medicine and pathology. An optional Year 2 'experiential' Student Selected Component (SSC) in forensic medicine and pathology has been offered at Cardiff University's School of Medicine for many years but, in 2015, an opportunity arose to expand that SSC from 4 students a year to 40 in order to meet student demand. The biannual SSC accommodating 20 students at a time was delivered 5 times (to 100 students); at the same time forensic medicine and pathology was re-introduced into the core undergraduate curriculum in Cardiff, (4) and the 'language of trauma' teaching was subsequently incorporated into an introductory session in year 1, and a compulsory week-long course in year 3.

THE LANGUAGE OF TRAUMA IN THE FORENSIC PATHOLOGY SSC

Teaching and learning activities during the expanded SSC were designed to help develop students' multimodal literacies (visual, linguistic, and cognitive) and included case-based discussions, group work culminating in an assessed group presentation, practical sessions, and the optional observation of a post mortem examination. The forensic assessment of wounds and injuries lay at the heart of each activity; it is relevant to all doctors as injured patients will be encountered in the community and in secondary care settings, and specific Intended Learning Outcomes (ILOs) developed for the SSC addressed students' understanding of the 'language of trauma'. How wounds and injuries can be classified was explored in a practical. Students sought to describe a variety of wounds and injuries caused by blunt force trauma (bruises, abrasions and lacerations), sharp force trauma (cuts and stab wounds), and ballistic trauma (gun shot wounds), and then tried to work out the type of implement capable of causing injuries depicted in photographs. The facilitator modelled the forensic description of wounds and injuries, and how medical terminology could be translated for a lay audience. This skill is of relevance in general medical settings (e.g. to patients and their relatives) as well as medicolegal settings (e.g. to lawyers, jurors, judges and coroners).

Once they were familiar with the identification, description, and classification of wounds and injuries, students explored authentic forensic case studies, and discussed what conclusions could be drawn about the distribution of injuries present. For example, one case study looked at explanations for the distribution of stab wounds on a person – must they indicate that the person had been assaulted, or could they have been sustained in some other way? Another considered whether a person found injured on a road had been struck by a vehicle or had been assaulted.

Students learned how to discriminate between patterns of injury suggesting assault, including at the extremes of age, compared with injuries commonly sustained in falls or in road traffic collisions. For example, blunt force injuries sustained in falls tend to be on protruding surfaces, whilst those sustained in assaults are not limited to protruding surfaces and tend to be concentrated on the head and neck. In addition, the presence of petechial haemorrhages in the face and conjunctivae could signify the application of pressure to the neck in an assault, requiring a detailed examination of the neck for subtle bruises or abrasions. Students also explored what anatomical and physiological consequences might be expected to follow injuries to different body regions, and how wounds and injuries might be fatal.

A constructivist 'case-based' approach (5,6) was facilitated by a forensic pathologist; students were encouraged to draw on knowledge acquired of anatomy and physiology, and their 'general knowledge', to work through varying explanatory scenarios for the causes and consequences of physical trauma. Recurrent themes in the case studies included deprivation, inequalities in health and disease, drugs and alcohol misuse, and violence in society, as well as uncertainty and complexity in medical decision making.

STUDENT FEEDBACK TO THE SSC

61 out of 100 students responded to an anonymous online feedback questionnaire via Bristol Online Surveys (now JISC Online Survey) over the course of 5 SSCs between 2015–2017 (response rate 61%). Free-text comments were also sought. Ethical approval was not required for the collection and use of this course evaluation-related data; students consented to its use in the ongoing development of the subject in undergraduate medical studies.

82% (50/61) of students found the wounds and injuries practical useful or very useful; 5% (3/61) did not find it useful (all of those students were in the first cohort).

90% (55/61) agreed or strongly agreed that having completed the SSC, they could identify and describe wounds and injuries caused by blunt and sharp force trauma, whilst 93% (57/61) agreed or strongly agreed that they were aware of the usefulness of evaluating patterns of injury when attempting to determine how a patient sustained their injuries.

“This SSC has benefitted me as it has made me think outside the box a lot more, realising that there is often a lot more to a patient’s injuries [than] first meet[s] the eye, and how to notice particular types of wounds.”

“Each case had an element of problem solving. This challenged the group to use their knowledge of the environment, anatomy, histology and physiology to solve the cause of death. These skills are transferable to medicine.”

100% thought that their future clinical practice would benefit from having completed the SSC, and 48% (29/61) could envisage themselves working as a forensic pathologist. That an SSC in forensic medicine might offer an opportunity for promoting a career in the specialty is a point that has been made by others. (7)

“[...] I feel this SSC would be useful for any specialty. [...] If I could, I would voluntarily have another week in the forensic pathology department for learning, since it’s been so useful.”

“It was a fantastic experience, I feel like I learnt a lot about a whole new field that we haven’t really touched on at all yet. Would definitely like to explore it further, as everything we did was so fascinating. Overall it was a great week.”

“I now have another specialty that I am interested in and to research so the SSC could have changed the direction of my future medical practice.”

Students who could not envisage themselves working as a forensic pathologist indicated that they wished to have more patient contact, some of whom already had an interest in another medical specialty. Some students thought that exposure to trauma on a daily basis would be too emotionally taxing.

The feedback data revealed the usefulness of teaching the pathology of trauma at medical school in a small group SSC setting. Students enjoyed the opportunity to explore the subject through a practical session and case discussions, recognising that it was something that would benefit a larger cohort of students. Staffing limitations prevented any additional expansion of student numbers for this SSC, however, and the pathology of trauma was integrated into a new course for all 3rd year students (4).

The ‘protection of the vulnerable’ course utilises authentic forensic case studies similar to those used in the SSC which students explore with the assistance of a multi-disciplinary team of safeguarding specialists. Such an approach emphasises the relevance of the forensic assessment of injuries to all medical practice, rather than it being a ‘niche’ concern for students intending to pursue a career in forensic medicine and pathology.

If other medical schools wish to introduce teaching on the pathology of trauma in an SSC, or for entire student cohorts, they can build on materials created for the ‘protection of the vulnerable’ course (4,8), and the expertise of forensic pathologists and other safeguarding experts in their local communities, including nursing staff, paediatricians, general practitioners, and forensic physicians.

CONCLUSION

In order for medical graduates to be able to confidently identify wounds and injuries suggestive of assault, and safeguard vulnerable patients, medical schools ought to be teaching their students about the forensic assessment of wounds and injuries. This should include the ability to identify, describe, and classify signs of trauma, use meaningful terminology, and recognise patterns of injury that suggest assault rather than injuries sustained in some other way. Until injury assessment as part of the safeguarding process – protecting patients at risk of abuse or neglect – becomes a regular feature in the core undergraduate curriculum, medical students could learn ‘the language of trauma’ relevant to their future clinical practice in an SSC.

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