Inferior vena cava filters in trauma patients: who is responsible for their removal?

Dominik Baschera, Jonathan K Sebunya and René Zellweger

To the Editor: The prophylactic use of inferior vena cava filters (IVCFs) in trauma patients for whom anticoagulation is contraindicated has markedly increased over the past few years. Their need for caval filtration is usually only transient, and once the risk of venous thromboembolism is deemed to be minimal, it would seem appropriate that IVCFs be retrieved. However, a large number of IVCFs remain in situ, due to either failure of retrieval or lack of follow-up. We observed a case that touches on both of these two major problems associated with IVCF retrieval.

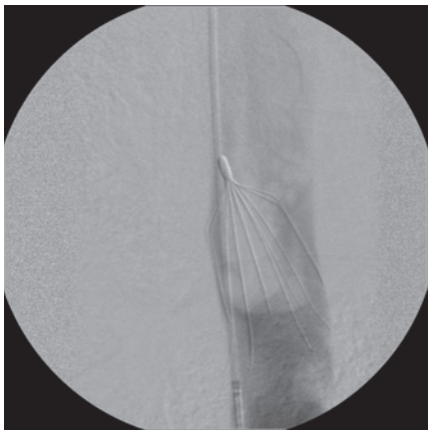
A 34-year-old man received a prophylactic IVCF after he had sustained severe pelvic fractures, several undisplaced spinal fractures and a splenic laceration in a motorbike accident. He was deemed to be at high risk of venous thromboembolism, and immediate prophylactic anticoagulation was contraindicated because of his pelvic and splenic injuries. The scheduled IVCF retrieval, 8 weeks after insertion, failed due to technical difficulties. A large clot between the struts of the IVCF (Figure) meant further withdrawal attempts were deemed too dangerous. The patient was informed that he had two options:

- if the filter remained in situ, he would possibly need lifelong oral anticoagulation; or
- the IVCF could be surgically removed.

Soon after this, the patient was discharged with instructions to continue oral anticoagulation.

About 5 months later, at a follow-up consultation with the orthopaedic surgeon about his injuries, the patient expressed his concern about the IVCF and especially about the anticoagulation. He was taking it for no other indication than the IVCF. The radiologist who had inserted the IVCF was contacted, and subsequently removed it without any complications.

In the case described here, an initial retrieval attempt was thwarted by filter tilt and a large clot burden. After discharge, the patient was lost to follow-up with respect to the IVCF. Fortunately, this was addressed by one of the specialists involved in management of the patient's other problems. Without this intervention, the patient may have ended up with the filter permanently in situ, with its attendant risks, and an unwarranted lifetime of anticoagulation. When filters have a significant clot burden, anticoagulation can help dissolve this to the point at which retrieval can be effected safely.[1]



The clot, occluding nearly the whole lumen of the inferior vena cava (IVC), is seen as a radiolucent area between the IVC filter struts as the contrast agent passes by. ◆

This case highlights the need for appropriate follow-up after IVCF insertion. Various studies have outlined different follow-up strategies, some using a protocol drawn up in a multidisciplinary team setting,[2] others designating a key person (usually the clinician who inserted the filter) to undertake this task.[3,4] Both strategies have been shown to reduce the number of patients lost to follow-up.

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Restricted career paths for overseas students graduating from Australian medical schools: legal and policy considerations

Christopher X J Wong, Samuel J Whitehouse, Thomas D Crowhurst and Ross L Roberts-Thomson

To the Editor: We welcome the thoughtful analysis from Elkin and Studdert on international students missing out on internship places.[1] Given the impending shortage of available internships in Australia, this is of considerable interest to the over 500 international students who graduate each year.

Sydney Medical School (University of Sydney) should be commended for explicitly discouraging international students' expectations of internship.[2] Sadly, this is an isolated example. We agree with the authors that universities have an ethical obligation to ensure this information is adequately conveyed to current and prospective international students. Education policymakers and medical school administrators should be forthcoming with vital information on the future of training for international students in Australia. The Australian Medical Students' Association is currently developing a comprehensive information booklet, which we will distribute to prospective international students. Among other details, this will clearly outline the issue.

However, the issues raised by Elkin and Studdert are not confined to international students. The authors observe that the recent health ministers' communiqué only guaranteed internship to students in Commonwealth-supported places.[3] This not only excludes international students, but also local fee-paying students at private universities and those in state-funded places.

The authors argue that international students have no legitimate expectation that they will be provided with an intern place on graduation, given the "clear" statements from the federal government. However, there has been no similar guidance for local private university or state-funded students. Do these students have a legitimate expectation of internship? One could argue that state-funded students do, given the funding bodies are the same ones that will also provide their internships. While Australian permanent residents and citizens currently have first or second priority for internships,

depending on their state of study and the state to which they are applying, it seems that in the future these students may miss out in favour of Commonwealth-supported students covered by the health ministers' guarantee.

Elkin and Studdert concluded that Australian courts would be unlikely to find that international students hold a legitimate expectation of internship. It is less certain whether this conclusion might apply to state-funded students or Australian permanent residents and citizens at private universities. At a minimum, these applicants too deserve "full and frank information" about their internship prospects.

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Alarm about computed tomography scans is unjustified

Richard M Mendelson, Richard A Fox and Nicholas H de Klerk

To the Editor: Blecher correctly asserts that alarm is not the appropriate reaction to the potential dangers of computed tomography (CT) scans.[1] Such alarm risks discouraging patients from having the CT scans they need. Appropriate CT scans are good; inappropriate ones are bad.

Blecher is also correct in stating that the linear, no-threshold (no dose is entirely safe however small) model of radiation risk is theoretical.[2] However, the advice of all international regulatory radiation protection authorities is to assume that the model is correct. To do so is prudent, even if overly conservative. And while these authorities hold this position, it would be professionally irresponsible to ignore it. Notwithstanding the Health Physics Society statement that the risk of ionising radiation below 100 mSv is negligible,[3] the risk is thought to be cumulative. Furthermore, a single CT scan of the chest, abdomen and pelvis may expose a patient to 30 mSv or more, and the risk in children and young adults is considered to be 2–3 times greater than the average.[4]

The atomic bomb data are based on radiation dose levels as low as 5 mSv,[5] with the cohort exposed to doses between 5 and 20 mSv showing an 85% chance that the risk is worse than we think and a 15% chance that it is better than we think. Although not statistically significant at the 95% confidence level, these figures indicate that great care is needed.

The dimensions of the risks of low-dose radiation are contentious, but are we willing to ignore the danger of accepting Blecher's argument?

It is a Pascal's wager. Providing we do not spook patients from having necessary scans (and this requires better communication with patients), our possibly over-cautious approach should result in more appropriate use of diagnostic imaging. The benefits go beyond those of limiting unnecessary radiation.

Blecher finds it ironic that concerns about the dangers of CT are rising as radiation doses are falling. Doses may be falling, although that depends on where the baseline is drawn. When multidetector CT scanning was introduced, doses rose,[6] but if, since then, doses have been falling, there is nothing ironic about this. Doses are falling because of the concern.

Whether a patient undergoes an imaging procedure should be subject to the process of justification mandated in the Australian Radiation Protection and Nuclear Safety Agency code of practice.[7] If the potential benefit outweighs the risk, the procedure is justified and the examination should proceed, but optimised to ensure that the lowest possible dose of radiation is used to provide diagnostic images — the ALARA principle (As Low As Reasonably Achievable).

In summary:

- If a CT scan is clinically justified, then it should be performed and we should certainly avoid alarming our patients.
- If a scan is not justified, it should not be performed.
- We should adhere to the ALARA principle.
- Whenever appropriate, a non-ionising alternative to CT scans should be considered, particularly for children and young patients.

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Seizures related to praziquantel therapy in neurocysticercosis

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To the Editor: Seizures can be precipitated by treatment with praziquantel in patients with underlying neurocysticercosis, but this is rare and has not previously been described in Australia. We describe the case of a patient who developed seizures after antischistosomal therapy.

An asymptomatic 23-year-old Burmese man underwent migrant health screening by his local doctor a month after arriving in Australia. His schistosomal serological results were positive (titre, 1:32) and he received three doses of 600 mg praziquantel. Three days later, he experienced several generalised tonic–clonic seizures in short succession, each lasting a few minutes. A