ischaemic and bleeding events, and to calculate the confidence limits of these event rates, as we have done.¹ Now, with 44 patients and still no ischaemic events, our 97.5% upper confidence level is 8.04%, which is far below the event rates published by the Cleveland and Dutch investigators.¹¹² This prospective observational approach makes sense only if the participating hospitals agree to enrol consecutive patients with the study enrolment characteristics. Several other hospitals in Italy are now using our protocol, and a formal enlarged study is being submitted to our Ethical Committee, in order to have a more solid estimate of the performance of this treatment strategy. Whether this approach is solid enough to generate recommendations depends on the Guideline writing committees: based on our growing experience in treating these patients, bridge therapy using a short-acting antiplatelet agent is effective.

**Conflict of interest**
None declared.

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**Non-invasive oximetry for early detection of cerebral and somatic ischaemia during corrective surgery for aortic coarctation in paediatric patients**

Editor—We read with interest the article¹ on the use of near infrared spectroscopy (NIRS) as an index of cerebral and tissue oxygenation, which represents an important development in the detection of cerebral ischaemia, and also splanchnic and renal ischaemia. During cardiac surgery, especially in young children, important haemodynamic changes occurs such as acute hypotension and cardiac arrest, which may cause cerebral ischaemia.² These patients, particularly during surgical correction of aortic coarctation, may be exposed to renal and intestinal injuries due to ischaemia and reperfusion after surgical repair. It has been described as post-coarctectomy syndrome,³ characterized among other symptoms by abdominal pain, fever, oliguria, and paradoxical hypertension.⁴ Information on the regional oxygen saturation may assist in evaluation and management of ischaemic problems and ensure proper vascular perfusion.⁵–⁷

In relation to this study,¹ we would like to provide our preliminary experience regarding the clinical utility of NIRS. We performed a prospective study of 10 paediatric patients (aged 4-month-old to 2-yr-old) who, after institutional approval and written consent signed by parents, underwent cardiac surgery for aortic coarctation repair. NIRS monitoring of cerebral and somatic (renal and intestinal) oxygenation (rSO₂) with INVOS-OXIMETER cerebral/somatic [SOMANETICS (TM)] was added to standard monitoring. Four sensors were placed, one each at the left and right cranial frontolateral level, one at the kidney level (dorsolateral flank), and a fourth on the anterior abdominal wall. Haemodynamic variables (MAP–SAP–DAP–HR–CVP) and SPo₂ were simultaneously measured, and possible postoperative complications were registered in the first 48 h after surgery. A total of 50 determinations of cerebral, renal, and intestinal NIRS were performed, distributed in five time points: after anaesthetic induction, before cross-clamp, during cross-clamp, post-cross-clamp, and end of surgery. Critical values of rSO₂ were considered as decreases more than 20% of
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J.M.M. has received honoraria/travel/lecture fees from neuromonitoring companies including Somanetics and Nonin Medical but has no stock equity or other such financial interests.

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Transversus abdominis plane blocks and liver injury

Editor—We are surprised to learn that a liver injury can occur from a transversus abdominis plane (TAP) block for hernia surgery with the use of ultrasound (US).1 We notice that the authors have used Sonosite i-look US, which in our opinion is inappropriate for performing such blocks. The resolution of this machine is very poor and the screen is so small that as the depth is increased, the window becomes increasingly smaller making it difficult to properly identify the anatomical structures and the needle. We agree that more and more people are doing TAP blocks but these blocks should only be done under supervision and by people who have training in using US for nerve blocks. For liver injury to occur from a TAP block for inguinal hernia repair, there can be only two reasons: (i) the operator was unable to identify the anatomy appropriately and was in a wrong place (too high); and (ii) the operator was unable to identify the tip of the needle (which is impossible with i-look). We do, and teach our trainees to do, TAP blocks and with the numbers we have done, have yet to see a major complication like this. We appreciate the authors’ contribution in highlighting this complication but would recommend that these blocks should only be performed after adequate training and with the use of appropriate equipment.2

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Editor—We read with great interest the case report of US-guided TAP block causing liver trauma1 in a patient undergoing an inguinal hernia repair. It is evident that this block which is considered simple and effective can have significant morbidity as was seen in this case. We wish to raise several points about TAP blocks and the use of US for this procedure.

(1) The patient had a bilateral TAP block for the repair of strangulated inguinal hernia and umbilical hernia. Perhaps, it would have been useful to know whether the block was done using an in-plane approach or out-of-plane approach. We advocate an in-plane approach when performing US-guided TAP blocks as we believe that this allows easier visualization of the muscle layers and needle tip position.

(2) We believe the key issue with this case was that the machine used to guide the procedure was designed for visualization of vascular structures, not for imaging of the abdominal wall, and as this case illustrates, the images produced are not adequate for use in the placement of US-guided TAP blocks. Visualization of the muscle layers of the abdominal wall can be difficult, and in our institution, TAP blocks are placed using higher resolution machines and the i-look machines are only used to guide vascular access.

(3) The introduction of a new procedure requires appropriate training and the complication reported appears to be related more to the ability to identify the location of the needle tip rather than the block.

(4) In a recent editorial3 on TAP blocks in this journal, it was highlighted that most of the studies published so far have been on a small number of patients and they are insufficient for the evaluation of safety and efficacy of TAP blocks. In addition to this case report, there have been other case reports4 highlighting the problems of TAP block including femoral nerve paresis.5 Hence, the TAP block should be used with caution in day-case procedures if no facilities exist for overnight admission and the patients are informed of these risks.

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