tive audit of 1,000 ankle blocks for mid or forefoot surgery. Aims were to determine block success rate, risk factors for block failure and length of action of differing combinations of local anesthetic (LA). The choice of LA was either a 50/50 mixture of lidocaine 1.5% plain and ropivacaine 7.5 $mg \cdot mL^{-1}$, ropivacaine 7.5 $mg \cdot mL^{-1}$ alone, or ropivacaine 7.5 $mg \cdot mL^{-1}$ and clonidine 1 $\mu g \cdot kg^{-1}$. A standardized ankle block technique was used using a 40 mL total maximum volume with optional sedation for block and surgery. Using a 25 gauge 35-mm needle, the tibial nerve was blocked with up to 10 mL LA at the medial malleolar level, posterior to the posterior tibial artery pulsation. The saphenous and superficial peroneal nerves were blocked by infiltration of 10 to 15 mL LA along a line joining both malleoli and the sural nerve with up to 10 mL LA infiltrated 1.5 cm distal to the tip of the fibula. The deep peroneal nerve were blocked at the malleolar level, with up to 5 mL LA between bone and skin (both sides of the dorsalis pedis pulsation). A 15-cm wide low-pressure ankle tourniquet (Zimmer, Warsaw, Indiana) was applied at the supramalleolar level and inflated to a pressure of 250 mmHg for surgery. A successful block was defined as one that did not require surgical supplementation, *iv* sedation or general anesthesia (GA) for surgery.

Overall block success rate was 94.7%, with a 4.4% improvement over the last 700 cases. The failure rate when surgery commenced before 20 min from block insertion was significantly ($P < 0.001$) greater than for longer waiting periods; there was a sharp drop in failure as waiting periods increased (Figure). Nine patients required GA (3 tourniquet pain, 2 block failures, 3 anxiety, 1 confused). Ropivacaine with clonidine had a significantly longer mean duration of action at 15.9 hr compared to other LA agents ($P < 0.001$).

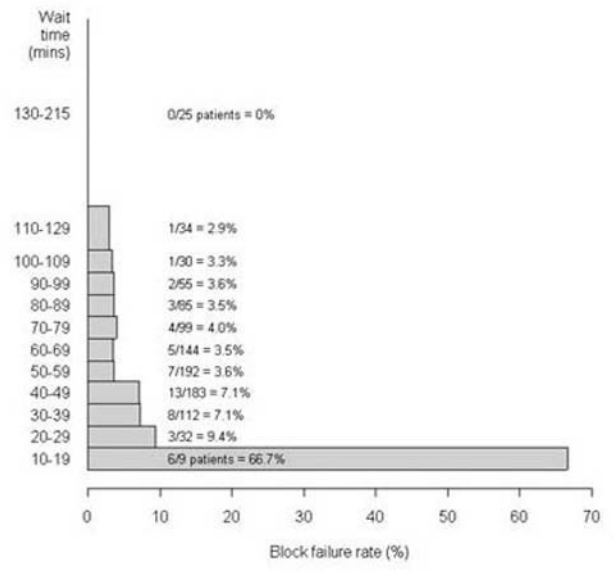

FIGURE Relationship between waiting time and block failure.

In conclusion, compared to popliteal block, our ankle block audit demonstrated a high success rate, with a longer period of analgesia with the addition of clonidine.[2–4] Few patients (0.2%) required GA for block failure. LA supplementation and sedation is required more often with surgery commencing within 20 min. Time constraints may be a major impediment for clinicians performing ankle blocks, as recognized in work published recently.[5]

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Intracerebral hematoma after combined spinal-epidural anesthesia: complication or coincidence?

To the Editor:
Intracerebral hemorrhage (ICH) is most frequently a spontaneous event. When following regional anesthesia, the link seems *a priori* evident and relevant.

A 50-yr-old alcoholic woman became comatose two days after hemorroidectomy. For the procedure, a combined spinal-epidural (CSE) had been performed at the L4–L5 level using a 27-gauge pencil-point needle

(Whitacre®) through a 16-gauge Tuohy needle (Portex®). Ten milligrams of plain bupivacaine were injected intrathecally for anesthesia and ropivacaine was infused continuously in the epidural catheter for postoperative analgesia. Subcutaneous enoxaparin (20 mg) was given on the first postoperative day. The patient did not complain of any headache and blood pressure remained normal. On the second postoperative day, the patient was found unconscious, biting her tongue.

A cerebral computed tomography scan revealed a recent frontal hematoma with subarachnoid hemorrhage. A conventional cerebral angiogram revealed no vascular abnormality. Twelve hours later, the patient recovered normal neurological function.

Several neurological complications have been described after spinal anesthesia (headache, hearing loss, and subdural hematoma). All these complications have been related to cerebrospinal fluid (CSF) leakage, leading to intracranial hypotension. Intracerebral hematoma has rarely been associated to spinal puncture except after procedures such as lumbar myelography.[1]

Arguments for coincidence are the lack of headache suggesting if any, a small CSF leakage, a known alcohol abuse and the possibility of spontaneous ICH or secondary to other causes (trauma, hypertensive crisis, alcohol withdrawal seizure).

Arguments for causative association are: no vascular abnormalities detected by extensive brain imaging, the time course of events compatible with a causative association, CSE technique increasing the risk of dural puncture and CSF leakage and the hemorrhagic suffusion compatible with a venous lesion secondary to CSF leakage.

In our opinion, in this case, a direct and univoque implication of the CSE as the unique cause of ICH is questionable.

A cause-effect association is difficult to demonstrate in very rare events. Mantia *et al.* discussed the possibility that ICH may be frequent after spinal anesthesia.[2] However, since then, only two cases of ICH associated with regional anesthesia have been published.[3,4] To date, considering the paucity of the literature relating spinal anesthesia to ICH, other risk factors must be discussed. Regional anesthesia is indeed "easy to blame" and the idea that any neurological complication is unequivocally due to the associated spinal anesthetic is misleading.

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Avoiding accidental iv injection

To the Editor:
Mahajan[1] mentioned several means to reduce the accidental *iv* injection of drugs drawn up for administration by the epidural route. However, we believe that these measures would merely scratch the surface of the problem.

We do believe that the feel or pressure of the syringe plunger or the colour of the plunger to be too subtle a characteristic to be relied upon in everyday anesthetic practice. Surely, any examination into medical mishaps will soon reveal the quite remarkable capacity for a human to circumvent almost any safeguards against medical error. Surely one of the take-home messages from Favier *et al.*'s case report[2] is to reiterate once again the age-old adage that if you are not 100% certain about the contents of a syringe you should not administer it to anyone and discard it immediately. This goes far beyond the label on the syringe or its colour, but also concerns either drawing up the syringe yourself or having full confidence in the person who did so.

If we were truly serious about avoiding this problem, then the most effective solution would surely be to use an entirely different connection system for epidural catheters and epidural lines. One such example is the Vygon epidural infusion set (Vygon U.K. Ltd, Gloucestershire, England, UK) which incorporates a filter and easy lock adaptor with two syringes (5 mL and 20 mL) with a female Luer Lock (Figure A, B). Connecting a different syringe i.e., one with a male end is thus rendered impossible.

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