

Psoas abscess and acupuncture

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Psoas abscess is a rare condition, and is classified as either primary (haematogenous spread from a distant infection) or secondary (local spread from an infective process). In the past, secondary cases resulting from spinal tuberculosis (TB) were the most common,¹ but this has changed with the fall in prevalence of TB in many parts of the world. Now the most common causes of secondary cases in the developed world appear to be inflammatory or neoplastic diseases of the bowel, kidney and spine, such as Crohn's disease, diverticulitis and carcinoma.^{2,3} Primary psoas abscess most commonly occurs in children and the causative organism is most often *Staphylococcus aureus*.^{1,4} When primary psoas abscess occurs in adults it may be associated with chronic disease, general debility or specific impairment of immune function.^{2,5}

In the linked case report in this issue (page 81), "Polyarticular septic arthritis with bilateral psoas abscesses following acupuncture – a case report", Ogasawara and colleagues report a previously healthy patient who developed polyarticular septic arthritis with bilateral psoas abscess following acupuncture.⁶ The course of illness was life-threatening, with the added complication of acute respiratory distress syndrome after drainage of the abscess. This is only the third case of psoas abscess linked to acupuncture that we can find in the literature: one was secondary to spinal infection,⁷ and one occurred in the absence of any identified infection of other tissue,⁸ and presumably resulted from haematogenous spread since direct inoculation of *S aureus* to deep muscle layers seems implausible. Other relevant literature includes a recent report of air being introduced over the psoas muscle by an acupuncture needle,⁹ and there is one other report of an extensive retroperitoneal abscess.¹⁰ In both these cases it appears likely that one or more acupuncture needles perforated the bowel, since this is the only likely source of gas or *Klebsiella pneumoniae*.

Unfortunately most case reports of serious adverse events related to acupuncture have inadequate detail of the acupuncture techniques used.¹¹ This can make clear attribution difficult, and limits the educational value for safe practice of acupuncture. In this case the patient's symptoms developed 2 days after acupuncture treatment, which seems rather a short time from presumed inoculation to systemic sepsis in a previously healthy patient. It also seems hard to imagine how acupuncture could inoculate a sufficient bacterial load, since experiments in the 1950s found that injection of 7 500 000 abscess-derived *S aureus* were required to create a local skin infection in healthy subjects.¹²

Perhaps it is slightly semantic to dispute whether acupuncture truly caused this case or not. The author described the acupuncture as the "probable" cause of this infection, and this is technically correct. The attribution (causal link) of an adverse event to acupuncture is often not straightforward, as in this case. Edwards, in setting the classifications for adverse drug reactions, defines "probable" as: "reasonable time relation ..., unlikely to be attributed to concurrent disease ..."; and he defines "possible" as "reasonable time relation ... but which could also be explained by concurrent disease ..."¹³

Thus it seems we should consider the general problem of systemic infection after acupuncture, and the specific problem of infection introduced by needling patients in the lumbar region. Abscesses in general are rather rarely reported after acupuncture, only seven being found in a cumulative review in 2004.¹⁴ Septic arthritis is also rarely associated, and more likely to be local to the site of needling than occurring through blood-borne spread. It is impossible to completely sterilise the skin.¹² Thus, it seems that the occasional systemic infection after acupuncture, though potentially tragic, is an idiosyncratic, unpredictable and unpreventable risk, and everyone is fortunate that it is so rare. However, the occasional event should remind us to be careful to screen patients for any increased susceptibility to infection.

Most practitioners would not needle as deep as the psoas muscle in the lumbar spine. Indeed, the standard needles

recommended for needling in this region (50 mm length) would only reach as far as the vertebral lamina or transverse processes when used within the width of the lumbar erector spinae. However, great care should of course be taken not to penetrate beyond the muscle layer when needling more laterally, as that is where the colon lies.

Finally, the acupuncturist and patient together should weigh the risk benefit balance whenever considering acupuncture, as with any other treatment. For treatment of chronic low back pain, the current Cochrane Review finds: "For chronic low-back pain there is evidence of pain relief and functional improvement for acupuncture, compared to no treatment or sham therapy", though there is insufficient evidence on whether the effect is lasting.¹⁵ The meta-analysis shows that acupuncture also "relieves pain and improves function better than the conventional therapies alone" though this evidence was not considered reliable enough to be conclusive. Thus, in view also of its overall safety, there seems no question that acupuncture as an intervention for chronic low back pain is justified even though there may occasionally be tragic consequences.

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