



EDITORIAL COMMENT

Sterile water injections – a treatment for renal colic when other painkillers are contraindicated?

Is sterile water injection a useful alternative to pain management with non-steroidal anti-inflammatory drugs (NSAIDs) or opioids in patients with renal colic? This is the topic of a systematic review in this issue of the journal by Lee and Ma^{rtensson} [1]. The most common indication for sterile water skin injections is labour-related back pain in childbirth, but there are some studies that have investigated the effect of sterile water injections as a treatment for renal colic.

It may be of value to consider the problem of treating patients with renal colic in a historical perspective. I have no personal experience of sterile water injections but over the years I have met colleagues who enthusiastically and successfully have applied the method in selected cases. When I started my surgical training 50 years ago, the only treatment for renal colic was injection of opioids. This therapeutic approach worked in most, but not all patients. Moreover, many patients had pronounced side effects, and some patients became addicted to narcotic analgesics. These problems virtually disappeared with the introduction of NSAIDs for use in patients with renal colic [1]. In my opinion, the use of NSAIDs in patients with renal colic is one of the greatest inventions in the care of patients with urolithiasis.

Unfortunately, not all patients can be treated with NSAIDs, for instance those with reduced renal function, those with risk of gastrointestinal bleeding, those on treatment with anticoagulants, and pregnant women. There are thus some situations in which it is necessary to avoid NSAIDs. In such situations, it may be worthwhile to consider sterile water injections as an alternative because the method is described as effective and without side effects.

In the RCTs summarized in this systematic review, all patients were given intracutaneous injections and that seems to be the method of choice. Doses of 0.1–0.5 ml of sterile water were injected intracutaneously in cases of renal colic. Larger volumes were applied in association with shockwave lithotripsy. The way in which sterile water injections works is not quite clear, but it seems to be associated with referred pain. Chemical irritation in the skin apparently triggers afferent nerves, with release of endorphins [2,3]. Although positive effects have also been reported following subcutaneous injection of sterile water, it seems most logical to use the intracutaneous approach, which obviously was used in all patients with renal colic in this systematic review.

The article describes visual analogue scale (VAS) levels in studies comparing different treatment regimens, but although that may be of interest, my personal conclusion is that it is sufficient to know whether sterile water injections work in patients for whom other pain treatment regimens are to be avoided.

Given that most patients with renal colic today are treated satisfactorily with NSAIDs, it is reasonable to assume that sterile water injections will rarely be used. However, this article is a reminder that a sterile water injection is an alternative when NSAID opioids cannot be used [4].

So, the answer to the question ‘Are sterile water injections a useful treatment for management renal colic when relevant drugs are contraindicated?’ is, well, perhaps, maybe, in a few very select patients when all other drugs for pain relief are out of the question. However, looking in my crystal ball, I think it is unlikely that this treatment will be frequently used in the future.

References

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