ment, especially where the junior staff undergo regular turnover every 3–6 months. Proper education of new juniors on the protocols and regular re-assessment of the system is essential. In certain circumstances such as ‘door-to-needle’ times, deficiencies in emergency management by other specialties are also highlighted and can be improved upon in a joint manner.

If this does not occur, then practices very quickly deteriorate and all the original good work is lost. Our audit review sadly proved this to be the case!

REFERENCES


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Suturing of skin wounds: a pilot study

Suturing of skin wounds is one of the most common procedures performed in the accident and emergency (A&E) department. It is most often performed by inexperienced junior doctors, and the wound is often in a cosmetically or functionally important area such as the face or hand.

Attention has been given in the past to the need to instruct doctors in suture techniques.1 Additionally advice about the type of suture material to use is a standard part of most teaching. It is also common surgical practice to discard bent or damaged needles as they cause more tissue trauma in their passage, and may adversely affect wound healing.

Much effort has been made by the manufacturers of sutures to improve the strength and quality of their needles, but we have been unable to find any information regarding the use of these needles in clinical practice.

We would like to report the findings of a pilot study using one manufacturer’s needles. As part of our regular teaching session for new senior house officers (SHOs) at Glasgow Royal Infirmary, we asked the participating junior and senior medical

staff to assess three different needles. Each needle was presented blind to the assessor, who then repaired a wound in one of four fresh pigs trotters, all from the same animal. Each needle was then given scores, by visual analogue scales, for resistance to bend, ability to penetrate tissue repeatedly, and stability in the needle holder. Finally a crude score out of ten was recorded.

Twelve assessors participated in this trial. The three needles were a slim bladed needle designed for plastic surgery, a standard reverse cutting needle, and a square bodied strengthened needle (‘p’ needle). All three needles were produced by the same company (Ethicon Ltd, Edinburgh, UK), were similarly packaged, of the same length and curvature, and were attached to identical 4/0 monofilament nylon.

Analysis of the results showed that there was no discernable difference in the visual analogue scores for penetration of tissue and stability in the needle holder. Whilst there was no significant difference there was a definite trend to score the slim bladed needle as having less resistance to bend, and an equally definite trend towards the ‘p’ needle having the most resistance to bending (Table 1).

The overall scores given to the needles showed a distinct operator preference for the ‘p’ and reverse cutting needles. The most significant result however, was that 9 out of 10 of the slim bladed needles, and 7 of 9 reverse cutting needles were bent during use, compared with 2 of 10 ‘p’ needles.

If the recommendation not to use damaged needles is followed it is likely that some four times the number of reverse cutting needles would be used compared with the strengthened ‘p’ needle. The ‘p’ needle is more expensive, costing approximately a third more than the conventional needle. However, a reduction in the order of 4 to 1 in the number of needles used would more than compensate this extra unit outlay and help to avoid any compromise of wound healing caused by a damaged needle.

Whilst our study is small it does suggest that we should give more consideration to the needle types available to junior doctors in the A&E department.

Table 1. Bending characteristics of needles

<table>
<thead>
<tr>
<th></th>
<th>Slim blade</th>
<th>‘p’</th>
<th>rev. cutting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of resistance to bend</td>
<td>6.03</td>
<td>9.55</td>
<td>7.86</td>
</tr>
<tr>
<td>Actual number bent</td>
<td>9/10</td>
<td>2/10</td>
<td>7/9</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

We would like to thank Ethicon Limited, Edinburgh, UK for the supply of the suture materials and pig’s trotters for this study, but wish to state that the company took no part in the design or interpretation of the study.

REFERENCE


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Death from malaria

I wish to report a recent death from malaria which illustrates some of the problems regarding prophylaxis and treatment of this condition.

A 34-year-old female, previously in good general health, was brought to the accident and emergency (A&E) department at East Birmingham Hospital one morning having been discovered unconscious at home in bed. Cardiopulmonary resuscitation was commenced by the ambulance personnel. On arrival in the A&E department she was noted to be in asystolic cardiac arrest. As she still felt warm cardiopulmonary resuscitation was continued as per the Resuscitation Council Guidelines. There was no response whatsoever to resuscitation.

During the course of resuscitation blood taken from both peripheral and central veins was tested for glucose using BM stix and no glucose was detectable. Large quantities of 50% dextrose were given during the resuscitation, again to no effect.

Post mortem showed congestive splenomegaly and cerebral congestion. Post mortem blood smears showed a heavy parasitaemia with plasmodium falciparum.

Further questioning of her boyfriend revealed that she had recently been on a 2-week holiday in Kenya having returned 13 days prior to her death. Prior to and during the holiday she was on combined prophylaxis with chloroquine and paludrine. As she developed unspecified side effects during the second week she reduced the daily dosage of her medication. Two days prior to her death she developed flu-like symptoms of fever, headache and body ache for which she took paracetamol. A day before her death she noted back pains, diarrhoea and haematuria. No medical attention was sought for these symptoms.

The incidence of malaria in the United Kingdom has been steadily increasing over the past 15 years, largely as a result of increased foreign travel. In 1991, 2332 cases of malaria were notified in this country and there were 12 deaths. Of these 11 were due to falciparum malaria and one was due to ovale malaria with spontaneous splenic rupture. Failure to take prophylaxis appears to have been a major factor in many of these deaths (7) (Malaria Reference Laboratory, personal communication). It is not widely recognized that malaria can occur even after taking adequate anti-malarial prophylaxis and that this may even be fatal. This is due to increasing emergence of drug resistant strains of the parasite especially in East Africa. Both patients and doctors may be unaware that relatively minor flu-like symptoms may precede a fatal illness. A failure to recognize the implications of taking a travel history may lead to the possibility of malaria being over-looked. Plasmodium falciparum malaria should be considered in any person who develops systemic symptoms including fever even 2 months after having returned from an endemic area. Parasitaemia may be intermittent hence a single negative blood smear does not exclude the diagnosis and indeed it may be prudent to treat the patient with quinine if the suspicion of malaria is sufficiently high.

Vivax malaria which is much more common can occur up to a year after return from an endemic area but failure to diagnose it is not as serious because it is not usually fatal.

Finally hypoglycaemia is a sign often seen in severe falciparum malaria and blood glucose testing should be part of the assessment of patients in whom this diagnosis is suspected.

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