Topical miconazole and warfarin

Sir,

Drug interactions can be fatal. A thorough evaluation of medical history and regular medications is essential before the prescription of drugs by all clinicians, nurse practitioners, and pharmacists. Topical medications can be erroneously considered as safer alternatives when drug interactions are known.

A 75-year-old man on long-term warfarin to support a mechanical aortic valve was seen in our department with a "sore" lesion of the buccal mucosa. His other medical conditions included abdominal aortic aneurysm, hypertension, and hypercholesterolaemia. He maintained a well-controlled International Normalised Ratio (INR) that usually ranged from 2.0–3.0. He was provisionally diagnosed with oral candidiasis and given a course of miconazole gel to be applied to the lesion topically.

After using the gel for 24 hours, he noticed multiple areas of painless bruising on his arms and legs. He was seen in the local emergency department at which time his INR was 10.8. He was advised to stop his warfarin and given oral vitamin K, 5 mg for reversal. The following day, his INR was 4.2, so he was advised to omit the warfarin completely and referred to the anticoagulation team for further management. The INR returned to 2.6 within 48 hours.

Warfarin acts by inhibiting clotting factors that are dependent on vitamin K (II, VII, IX, and X) and is the most popular anticoagulant used in the United Kingdom and North America for the prophylaxis of thromboembolic events. Miconazole is an antifungal drug that contains imidazole that is commonly used to treat skin infections, and oropharyngeal and vaginal candidiasis.[1] The interaction between the two is well known to boost the effects of the warfarin by inhibiting its metabolism.

In 2016, the Department of Health in Wales issued a safety notice to all hospitals and community services (general practices, dental practices, pharmacies, and community nurses) advising of an incident in which a dentist prescribed topical miconazole for oral thrush for a patient on warfarin, which contributed to intracerebral haemorrhage and subsequent death.[2] The Medicines and Healthcare products Regulatory Agency reported 146 "yellow card" incidents concerning drug interactions that were related to the use of miconazole (mainly the oral variant) with warfarin. Before 2016, three deaths, and serious complications such as cerebral contusions, haematuria, and epistaxis had been reported.[3]

In spite of these incidents, there is a general lack of awareness among both primary and secondary care practitioners regarding these drug interactions, which is worrying. Newer versatile electronic prescription devices are more likely to alert clinicians to them, but the suggestions could still be countermanded as a result of inexperience. A wider dissemination of this information is necessary to prevent serious morbidity and mortality.

Conflict of interest

I have no conflicts of interest.

Ethics statement/confirmation of patient's permission

Not applicable.

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Use of ultrasound intraoperatively to locate extraoral implants

Sir,

Extraoral implants are commonly used in oral and maxillofacial surgery to restore facial defects.[1] Locating these implants in second-stage operations may be difficult at times (such as when tissue has overgrown, or before a defect has been reconstructed with a free flap). We describe a new technique that uses ultrasound guidance to reduce operating time by rapidly locating implants that are not palpable.

A patient had had an auriculectomy six months previously as part of treatment for a squamous cell carcinoma of the left pinna and external auditory meatus. Preprosthetic implants were inserted into the temporal bone at this time, one inferiorly and one superiorly, and the soft tissue defect was reconstructed with a left radial forearm free flap (Fig. 1). The patient then had a second operation to expose the implant

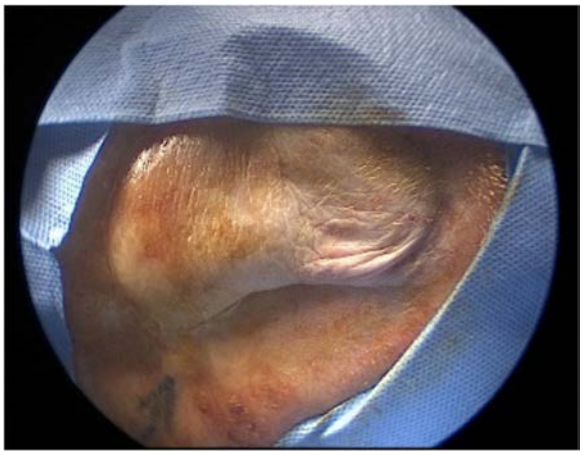

Fig. 1. Reconstruction after auriculectomy and placement of implant.

and place transmucosal extensions. As the flap was placed over the implants, they were not palpable and there were no scar lines to help locate them. We used an ultrasound probe (Venue 50, GE Healthcare) to confirm their position, which showed as a clear acoustic enhancement (Fig. 2). We made a small incision at the site, located the implants easily, and inserted the transmucosal extensions before closure.

Ultrasonography is a useful imaging tool with a broad range of applications in clinical practice. Although it is more commonly used in relation to soft tissue, previous studies have shown its usefulness in locating orthopaedic and hormonal implants,[2,3] and reports on its use in the assessment of intraoral implants have also been published.[4] Our procedure prevents the surgeon from creating blind incisions or relying on their interpretation of descriptions from previous operative notes. It facilitates real-time guidance for the surgeon, is low risk, and cost-effective. We think that it may be particularly useful if no previous scars are visible, or when a free flap has been used.

Ultrasound equipment is commonly available in theatres and although it is dependent on the skills of the operator, proficiency can be acquired quickly. Our method allows for less scar tissue, smaller, more accurate incisions, and a reduction in operating time.

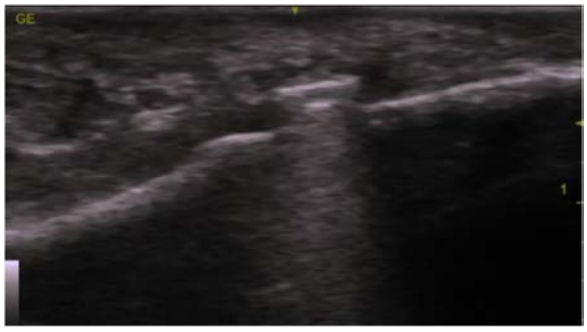

Fig. 2. Implant seen through an ultrasound probe.

Conflict of interest

We have no conflicts of interest.

Ethics statement/confirmation of patients' permission

Ethic approval not required. Patients' permission was obtained both verbally and in writing.

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Scope for patient-led diagrammatic mapping of facial pain

Sir,

We describe the potential uses of diagrammatic mapping in patients with facial pain or temporomandibular dysfunction (TMD) to help plan both treatment and operation, which follows a recent initiative at Leeds Teaching Hospital Trust.

A 77-year-old man attended an outpatient clinic complaining of chronic orofacial pain. His preferred method of showing the location of his pain and the range of discomfort across the area was with his own diagrams (Figs. 1 and 2). Unfortunately, in his case it did not aid his treatment, but it did encourage us to consider whether other patients could benefit from this method of communication.