The Royal College of Surgeons of England

CASE REPORT

Ann R Coll Surg Engl 2006; **88**: 675–676
doi 10.1308/003588406X149345

Methicillin-resistant *Staphylococcus aureus* infection following arthroscopy of the knee joint

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ABSTRACT

Arthroscopic surgery of the knee is considered to be a safe procedure. We had a microbiologically confirmed infection of methicillin-resistant *Staphylococcus aureus* (MRSA). Although various rare infective cases are reported following arthroscopy of the knee joint, to the best of our knowledge there is no previous report of MRSA infection following arthroscopy of the knee joint.

KEYWORDS

Arthroscopy – MRSA

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Arthroscopic surgery of the knee joint is one of the commonest orthopaedic procedures. Infection following the arthroscopic surgery is rare. The incidence of infection varies from 0.01% to 0.48%.[1] We believe that this is the first report of methicillin-resistant *Staphylococcus aureus* (MRSA) infection following arthroscopic surgery of the knee joint.

Case report

A 32-year-old female health care worker (staff nurse) had a right knee arthroscopy for a symptomatic knee joint 5 years after an anterior cruciate ligament reconstruction. Nine days postoperatively, she presented to accident and emergency with an ectopic pregnancy. A minilaparotomy was done as an emergency procedure. Fifteen days after the arthroscopic procedure, she presented to the accident and emergency department with a painful swollen knee. There was marked effusion in the knee and the range of movements was reduced. The patient had mild pyrexia (37.5°C). Blood cultures proved negative. A cloudy green fluid was aspirated from the knee joint, the microscopy of which revealed 70% polymorphs and Gram-stain was negative. Her inflammatory markers were markedly raised (ESR 44 mm/h [normal 1–12 mm/h], CRP 91.1 mg/l [normal < 5 mg/l]). She was immediately commenced on intravenous antibiotics (benzyl penicillin 1.2 g and flucloxacillin 1 g, 6-hourly each) and was admitted for arthroscopic washout of the knee. This was repeated 2 days later. The fluid from the knee was sent for culture and sensitivity. The initial culture report was negative but the enrichment culture grew MRSA 9 days after the arthroscopic washout. At this stage, we changed the antibiotic therapy to intravenous teicoplanin (400 mg every 12 h for 3 doses followed by 400 mg daily). She continued this treatment via a home-managed PIC line. She had complete recovery in 6 weeks. She underwent MRSA eradication protocol and ultimately, became MRSA negative.

Discussion

The rate of infection following arthroscopic surgery of the knee joint varies between 0.01 to 0.48%.[1] *Staphylococcus* spp. are the commonest organism (75.8%) following arthroscopic surgery.[2] Other organisms include *Streptococcus* spp. (5.7%) and *Pseudomonas* spp. (2.3%). There are case reports of Herpes simplex infection,[3] *Pseudomonas aeruginosa*, *Clostridium perfringens* and *Neisseria meningitides*. Wind *et al.*[4] reported a case of *Candida albicans* infection following arthroscopy.

Healthcare professionals are more prone to colonise with MRSA. In this case, there is a possibility of acquiring MRSA following the gynaecological surgery as well. Despite the severe clinical features, the causative organism proved hard to identify initially. A 6-week course of intravenous teicoplanin via a home-use PIC line proved a well-tolerated and completely effective treatment with no sequelae.

It is our hospital policy to screen for MRSA carriage in all elective orthopaedic procedures and those found to be pos-

itive for MRSA are administered a 5-day decolonisation protocol followed by repeat screen swabs for eradication.[5] Emergency admissions, however, will cause a breach of this protection.

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ERRATA

Ann R Coll Surg Engl 2006; **88**: 500 (September) doi 10.1308/003588406X155906

One-handed KTP laser application with suction, for ear surgery

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Please note that the authors were working at the above hospital in Northampton when this Technical Note was submitted, not the Great Western Hospital in Swindon.

Ann R Coll Surg Engl 2006; **88**: 515–516 (September) doi 10.1308/003588406X155915

A safer alternative for nail removal

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Due to the reorientation of the figure in production the instruments should have been referred to as being at the top, middle and bottom (*Letters and comments* section). The authors feel that the above new title would have been more accurate. We apologise for any confusion caused.

Fig. 1 Bottom – plastic nail cleaner from Laboratories Pharmaceutiques Vygon, 5A 11 Reuadeline, 95440 Ecouen, France
Middle – plastic nail cleaner from Becton Dickinson, Franklin Lahes, NJ 07417-1884, USA
Top – McDonald dissector. The long lever arm and blunt ends make it a very safe and easy to use instrument.