

MRSA in Closed Fracture Mid-Shaft Femur

Last Updated Friday, 17 August 2007

Housameddin Ghazzawi MB BCh. MSc. Diploma. Research Fellow, S.Taslaq BSc. SHO. Orthopaedic and Trauma Department. Charing Cross Hospital. Hammersmith Hospitals NHS Trust. Imperial Collage of Technology and Medicine. Fulham Palace Road, London, W6 8ND UK.

History:

This is 48 year old female patient who was involved in a car accident in December 2003. This resulted in multiple injuries to the chest and right side.

She sustained pelvic, right olecranon, right ulna and mid-shaft right femur closed fractures. The femur was treated with an external fixator. However, the position was lost and the fracture healed in mal-union with significant shortening, (Fig 1 and 2).

The patient was dissatisfied with the outcome, due to a significant limp. However, she did not complain of any pain. She was referred to us for a specialist opinion for a corrective procedure.

Past Medical History:

- Lives alone
- Mobilizes with cane
- Allergic to Penicillin
- Smoked 20 cigarettes/day
- Mild asthma
- Depression

Examination:

She had 2 Ex-Fix scars on the outer aspect of the right thigh which were well healed with no signs of infection.

Her right leg was shortened by 5-6 cm and externally rotated to 30°. She had a 30° posterior angulation and approximately

30° of valgus. She had short leg gait which was improved with heel raise, however, she was also Telendenburg positive.

The skin was pink in colour, non-tender over the fracture site. She had full range of motion at her right hip and knee. The right leg was neurovascularly intact distally.

Consultation:

Various options were discussed with her. She refused the Taylor Spatial Frame, and instead opted for an osteotomy and intramedullary nailing. She was advised to give up smoking, which she did three months prior to surgery.

Pre-operatively:

She was afebrile

Blood results

CRP	(C-Reactive Protein)	<2	
Na	(Sodium)	137	mmol/L
K	(Potassium)	4.1	mmol/L
Ur	(Urea)	4	mmol/L
WBC	(White Blood Cells)	8.7	x10
Hb	(Haemoglobin)	14.1	g/dl
PLT	(Platelets)	135	x10
Neut	(Neutrophils)	5.5	x10
PT	(Prothrombin Time)	10.2	sec
APTT	(Acquired Partial Thromboplastin Time)	25.0	sec
ESR	(Erythrocyte Sedimentation Rate)	1	mm/hr

The standard MRSA screening swabs were all negative.

Intra-Operative findings:

During the operation, it was observed that at the fracture site there was a mucoid material in a small cystic area. This did not have the appearance of frank pus. It was 1.5 x 1.0 cm in size.

Osteotomy of the callus formation was applied. Proximal and distal intramedullary canals were identified, corrected and approximated. Then the nail was inserted in an antegrade fashion.

Post-Operative Course:

The patient was feeling well, leg length was restored satisfactorily

Blood results

CRP	(C-Reactive Protein)	59	
Na	(Sodium)	136	mmol/L
K	(Potasium)	4.0	mmol/L
Ur	(Urea)	5.8	mmol/L
WBC	(White Blood Cells)	9.7	x10
Hb	(Haemoglobin)	8.6	g/dl
PLT	(Platelets)	63	x10
Neut	(Neutrophils)	6.7	x10
PT	(Prothrombin Time)	12.2	sec
APTT	(Aquired Partial Tromboplastin Time)	26.4	sec
ESR	(Erythrocyte Sedimentation Rate)	50	mm/hr

On the clinical findings at operation, it was decided to commence Vancomycin to cover any potential gram positive

infection.

5 days Post -Operatively

The patient was afebrile, mobilizing with a walker, pain free, full range of motion and neurovascularly intact.

Blood results

CRP	(C-Reactive Protein)	78	
Na	(Sodium)	135	mmol/L
K	(Potasium)	4.0	mmol/L
Ur	(Urea)	4.0	mmol/L
WBC	(White Blood Cells)	8.8	x10
Hb	(Haemoglobin)	11.5	g/dl
PLT	(Platelets)	117	x10
Neut	(Neutrophils)	6.5	x10

Culture swab results from the mucoid mass seen at the fracture site had grown unexpectedly MRSA. After discussion with our infectious disease and microbiology colleagues, we have decided to discharge her on a course of oral Rifampicin and Doxycyclin.