

Management of postoperative deep infection in osteotomy around the knee

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I have no financial conflicts to disclose

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Introduction

Postoperative infection is serious complication and difficult to treat, but no definitive treatment has yet been established.

Purpose

investigate cases of knee osteotomy
that resulted in deep infection and required surgical debridement

Materials and Methods

- ✓ 1277 knees in 951 patients who underwent osteotomies at our hospitals between April 2010 and December 2023 (M: 645 knees, F: 632 knees)

- ✓ The mean age was 57.0.

Number of knees in each osteotomy group

	n
total	1277
OWHTO	284
OWDTO	501
CWHTO	262
DFO	101
DLO	114
TCVO	15

Materials and Methods

Primary outcome

- ✓ the incidence of infection

Secondary outcomes

- ✓ patient demographics: sex, age, BMI, comorbidity, smoking status
- ✓ duration from surgery to infection
- ✓ duration from diagnosis to debridement
- ✓ causative organisms
- ✓ treatment modalities

Results

The incidence of infection following each type of osteotomy

	n (%)
Total	33 (2.6)
OWHTO	11 (3.9)
OWDTO	14 (2.8)
CWHTO	6 (2.3)
DFO	0 (0.0)
DLO	1 (0.9)
TCVO	1 (6.7)

Results

Demographic and clinical data of infection cases

Sex (male/female)	24/9
Age (years)	58.8 (40-79)
BMI (kg/m ²)	26.9 (19.3-39.6)
Comorbidity n (%)	
diabetes	7 (21.2)
Rheumatoid arthritis using steroid drugs	1 (3.0)
Atopic dermatitis	1 (3.0)
Smoker n (%)	6 (18.2)
The mean time of infection (days)	91.2 (8-292)
The time from diagnosis of infection to treatment in all cases (days)	6.4 (1-86)
The time from diagnosis of infection to treatment in early postoperative infected cases (days)	3.1 (1-8)



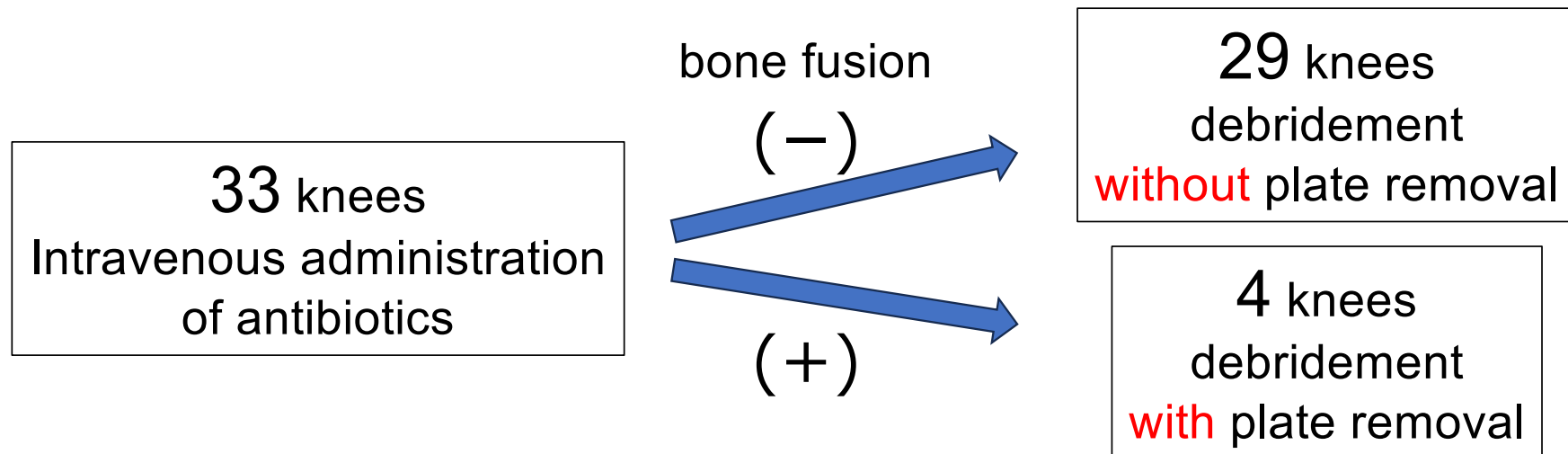
Results

Incidence of cultured organisms

Organisms of cultured	Number of cases
methicillin-susceptible <i>Staphylococcus aureus</i>	17
methicillin-resistant <i>Staphylococcus aureus</i>	4
coagulase-negative <i>Staphylococcus</i>	1
Group A <i>Streptococcus</i>	1
Group G <i>Streptococcus</i>	1
<i>Acinetobacter baumannii</i>	1
<i>Pseudomonas aeruginosa</i>	1
Negative culture	8



Treatment and Outcomes



- ✓ Two of the plate retention knees of infection were not completely cured and were required additional debridement.
- ✓ In all cases, infections were resolved and the plates were able to be preserved until bone fusion.

Discussion

Infection rates after AKO are 0.5-4.7%, especially deep infection at 1.2%.

In this study

Deep infection after AKO occurred in 2.6%.

Discussion

Antibiotic therapy, irrigation and debridement **without** implant removal were successful in management of the infection.

In this study

In all cases, infections were resolved and the plates were able to be preserved until bone fusion.

The most important aspect of infection treatment for early-stage infections is prompt surgical intervention. We always perform surgical treatment within a few days of diagnosis.

Conclusion

- ✓ Deep infection after AKO occurred in 2.6% of patients. In all cases, the infection subsided after debridement, with or without removal of the plate.
- ✓ Early postoperative cases also successfully retained the plate until bone fusion.

References

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