



8th Advanced Course on Knee Surgery

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Salvage Procedures and limits

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Background

- Number of joint replacement rising
- Infection will be a big issue despite low rate
- Financial burden of a single revision procedure for sepsis exceeding £21, 000
- Salvage procedure is rarely needed as we are better at treating PJI

Salvage Procedures

- Prolonged suppressive antibiotic therapy
- Resection arthroplasty
- Arthrodesis
- Amputation

PROLONGED SUPPRESSIVE ANTIBIOTIC THERAPY

Indication:

- Elderly patient or poor general condition precluding surgical intervention
- Patients unwilling to undergo surgery

PROLONGED SUPPRESSIVE ANTIBIOTIC THERAPY

Prerequisites:

- Sensitive pathogen to oral antibiotics
- Antibiotic that can be safely administered for long duration
- Baseline adequate renal and liver function tests
- Regular follow ups to ensure safety and effectiveness of the treatment regimen

PROLONGED SUPPRESSIVE ANTIBIOTIC THERAPY

Contraindications

- Radiological signs of implant loosening
- Radiological signs of osteomyelitis

PROLONGED SUPPRESSIVE ANTIBIOTIC THERAPY

MICROORGANISMS

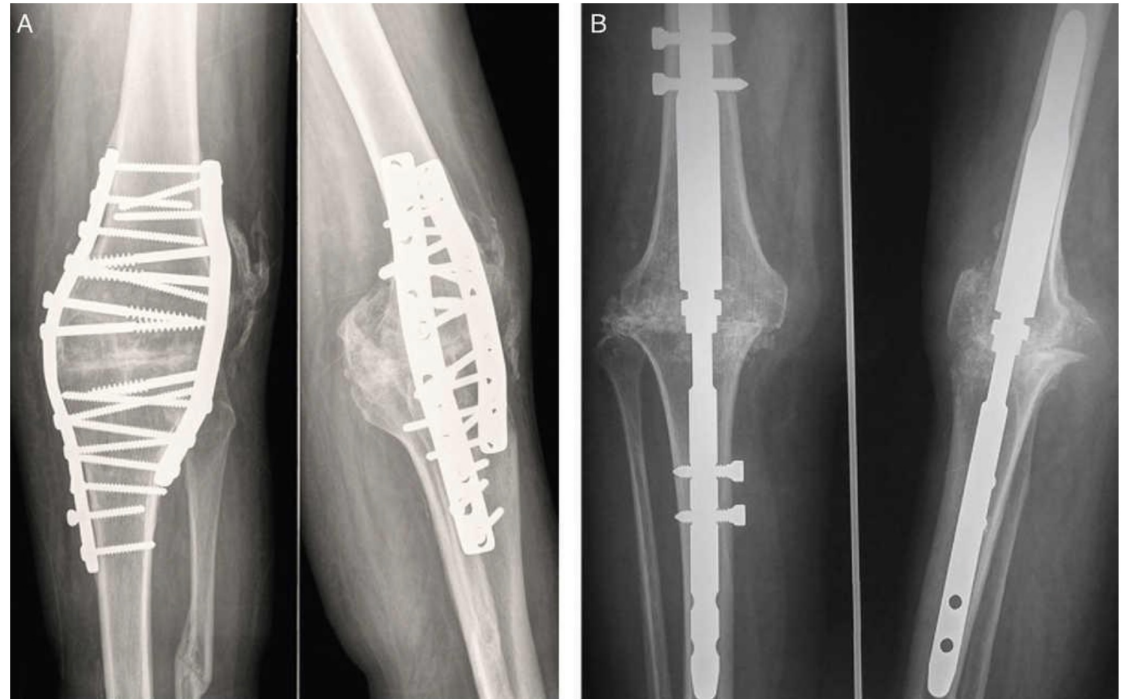
- Staphylococcus Group (Aureus and Epidermidis) (Prendki V. et al)
- Streptococcus (Everts *et al*)
- Gram-negative (GN) Organisms sensitive to fluoroquinolones (Jaen *et al*)

RESECTION ARTHROPLASTY

- Poor and unpredictable functional outcomes
- Falahee *et al.* reported resolution of infection in up to 89% of the patients but with only 50% of patients independently mobilizing after the operation.
- Outcomes were deemed satisfactory only to those who were severely disabled by their infected knees pre-operatively (Falahee MH et al)

Arthrodesis

- Procedure of choice



Wu C.H., Gray C.F., Lee G.C. Arthrodesis should be strongly considered after failed two-stage reimplantation TKA. Clin. Orthop. Relat. Res. 2014

Arthrodesis

Methods

- IMN arthrodesis (Bargiotas *et al.*) 83.3% fusion rates
- External Fixation offered the advantage of bone transport and subsequent lengthening to compensate for large bony defects (Kinik H. et al.) 93.3% fusion rates
- Cannulated Screws (Lim H.C. et al.) 87.5% union rates
- Plating (Nichols S.J. and Kuo A.C. et al) 100% union rates



Amputation

- Last resort for failed infection revision TKR
- The least accepted
- Danish Knee Arthroplasty Register cumulative incidence of amputation within 15 years after primary knee arthroplasty was 0.32% (J Bone Joint Surg Am 2016 Dec)
- Prevalence of above the-knee amputations directly related to complications of total knee replacement was 0.14% (Mayo clinic Joint registry) (J Bone Joint Surg Am 2003 Jun)

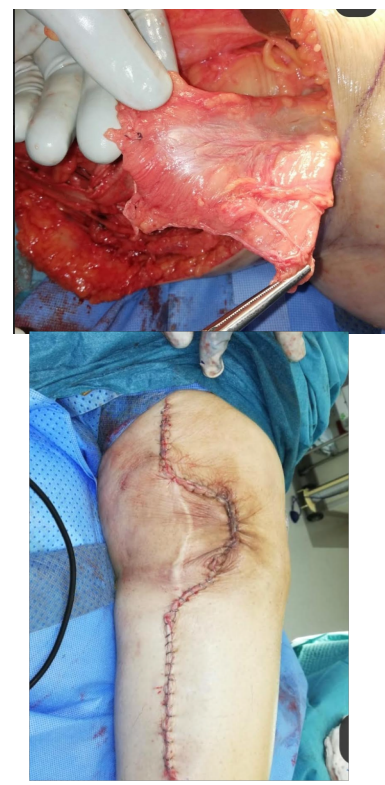
Amputation VS Arthrodesis

- Patients treated with AKA and Knee Arthrodesis after failed revision septic TKA showed a comparable functional outcome, quality of life and postoperative complication rate.

[*BMC Musculoskeletal Disorders*](#) (2017)

Case





Case



Conclusion

- Suppressive antibiotics is not ideal solution but it could be a choice in unfit patient or unwilling to go for surgery
- Arthrodesis works well for patient with failed previous revision to eradicate infection
- Amputation is the least accepted but could be savior in medical emergency

Thank You

