

SUPPLEMENTARY MATERIAL

Two-Stage Revision Total Knee Arthroplasty in Cases of Periprosthetic Joint Infection: An Analysis of 50 Cases

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Correlation of indication parameters with intraoperative findings

Patient Number	Patient History	Clinical Appearance	Diagnostic Findings	Intraoperative Appearance	Intraoperative Finding of Microorganism
1	One previous septic revision arthroplasty	Swelling, redness, elevated body temperature	Staphylococcus epidermidis in diagnostic aspiration	Purulence	Staphylococcus epidermidis multidrug-resistant
2	No local infection, chronic osteomyelitis of the opposite foot	Swelling, redness	Staphylococcus aureus in diagnostic aspiration, CRP 29 mg/dl	Purulence	Staphylococcus aureus
3	Two times arthroscopic lavage in an external hospital with verification of MRSA	No cardinal signs of inflammation	CRP 12.4 mg/dl	Purulence	MRSA
4	Wound healing disorder after primary TKA with performed revision with verification of Staphylococcus aureus	Persistent wound secretion, redness	CRP 3.5 mg/dl	Purulence	Staphylococcus epidermidis
5	No infection	No cardinal signs of inflammation	CRP 1.7 mg/dl, negative diagnostic aspiration	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, but signs of infection in histology
6	No infection	Swelling, redness, elevated body temperature	Purulence in diagnostic aspiration, CRP 35.4 mg/dl	Purulence	Staphylococcus epidermidis
7	1 one-stage revision arthroplasty, one revision with verification of Enterococcus faecalis	Swelling, redness, elevated body temperature	CRP 26.2 mg/dl	Purulence	Enterococcus faecalis
8	No infection	Swelling, redness, elevated body temperature	CRP 10.2 mg/dl	Purulence	E. coli MRSA
9	No infection	Swelling, redness, elevated body temperature	CRP 1.9 mg/dl, Staphylococcus epidermidis in diagnostic aspiration	Purulence	Staphylococcus epidermidis

Patient Number	Patient History	Clinical Appearance	Diagnostic Findings	Intraoperative Appearance	Intraoperative Finding of Microorganism
10	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers, negative diagnostic aspiration	Suspect scarred tissue Assumed low-grade infection	Staphylococcus epidermidis
11	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers, negative diagnostic aspiration	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
12	1 septic revision arthroplasty	Swelling, redness	Streptococcus intermedius in diagnostic aspiration	Purulence	Staphylococcus capitis
13	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers, negative diagnostic aspiration	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
14	4 times revision arthroplasty, one time septic	Swelling, redness, elevated body temperature	Normal serum inflammatory markers, signs of infection in bone scintigraphy	Suspect scarred tissue	Streptococcus agalactiae
15	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
16	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
17	Previous one-stage revision arthroplasty, persistent wound healing disorder with secretion and sinus tract	Swelling, redness, wound secretion	CRP 5.6 mg/dl	Purulence sinus tract	Staphylococcus aureus
18	One septic revision arthroplasty	Swelling, redness, elevated body temperature	CRP 1.5 mg/dl, signs of infection in bone scintigraphy	Purulence	Staphylococcus aureus
19	3 times revision arthroplasty, signs of infection in diagnostic aspiration of external hospital	No cardinal signs of inflammation	No signs of infection	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
20	One-stage revision arthroplasty	No cardinal signs of inflammation	Normal serum inflammatory markers, negative diagnostic aspiration, signs of infection in bone scintigraphy	Purulence	Staphylococcus epidermidis Micrococcus luteus
21	Over 60 previous operations, one septic revision arthroplasty	Swelling, redness, elevated body temperature	Normal serum inflammatory markers, negative diagnostic aspiration, signs of infection in leukocyte scintigraphy	Purulence	No verified microorganism, but signs of infection in histology

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22	One-stage revision arthroplasty	No cardinal signs of inflammation	No signs of infection	Suspect scarred tissue, Purulence	Staphylococcus epidermidis Propionibacterium acnes Bacillus species
23	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
24	One-stage revision arthroplasty	Swelling, redness, elevated body temperature	Normal serum inflammatory markers, negative diagnostic aspiration, signs of infection in bone scintigraphy	Suspect scarred tissue	No verified microorganism, no signs of infection in histology
25	One-stage revision arthroplasty	No cardinal signs of inflammation	Normal serum inflammatory markers, no signs of infection in bone scintigraphy	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
26	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers, negative diagnostic aspiration, no signs of infection in bone scintigraphy	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
27	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers, negative diagnostic aspiration, signs of infection in bone scintigraphy	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
28	One-stage revision arthroplasty	Hotness, redness, pain, swelling	CRP 1.0 mg/dl, negative diagnostic aspiration, signs of infection in bone scintigraphy	Suspect scarred tissue	Staphylococcus capitis
29	No infection	Swelling, redness, elevated body temperature	CRP 7.9 mg/dl	Purulence	Streptococcus agalactiae
30	One-stage revision arthroplasty	Hotness, redness, pain, swelling	CRP 0.9 mg/dl, negative diagnostic aspiration, signs of infection in bone scintigraphy	Purulence	Enterococcus faecalis
31	No infection	Hotness, redness, pain, swelling	CRP 4.0 mg/dl, negative diagnostic aspiration, signs of infection in bone scintigraphy	Suspect scarred tissue, Purulence	Staphylococcus epidermidis
32	Performed arthroscopic lavage in an external hospital with verification of Staphylococcus epidermidis	Hotness, redness, pain, swelling	CRP 2.4 mg/dl	Purulence	Staphylococcus epidermidis

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33	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
34	No infection	Hotness, redness, pain, swelling	CRP 1.1 mg/dl, negative diagnostic aspiration, no signs of infection in bone scintigraphy	No signs of infection	No verified microorganism, no signs of infection in histology
35	Revision with signs of infection in histology	Hotness, redness, pain, swelling, elevated body temperature	CRP 12.4 mg/dl	Purulence	Propionibacterium acnes
36	Arthroscopic lavage with verification of Propionibacterium acnes	No cardinal signs of inflammation	Normal serum inflammatory markers	Suspect scarred tissue	Propionibacterium acnes
37	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers	Suspect scarred tissue, Purulence	No verified microorganism, no signs of infection in histology
38	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers	Purulence	No verified microorganism, but signs of infection in histology
39	No infection	Hotness, redness, pain, swelling, elevated body temperature	CRP 10.0 mg/dl	Purulence	MRSA
40	One septic revision arthroplasty	Hotness, redness, pain, swelling	CRP 1.1 mg/dl, negative diagnostic aspiration, signs of infection in bone scintigraphy	Purulence	No verified microorganism, no signs of infection in histology
41	Erysipel previously	Hotness, redness, pain, swelling, elevated body temperature	normal serum inflammatory markers, negative diagnostic aspiration, no signs of infection in bone scintigraphy	Purulence	Staphylococcus epidermidis
42	No infection	No cardinal signs of inflammation	normal serum inflammatory markers, negative diagnostic aspiration, no signs of infection in bone scintigraphy	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
43	One-stage revision arthroplasty	No cardinal signs of inflammation	normal serum inflammatory markers, negative diagnostic aspiration, no signs of infection in bone scintigraphy	Suspect scarred tissue Assumed low-grade infection	No verified microorganism, no signs of infection in histology
44	Sepsis after spondylodiscitis	Hotness, redness, pain, swelling, elevated body temperature	Diagnostic aspiration with Strept. pneumoniae CRP 42.4 mg/dl	Purulence	Staphylococcus aureus

Patient Number	Patient History	Clinical Appearance	Diagnostic Findings	Intraoperative Appearance	Intraoperative Finding of Microorganism
45	Arthroscopic lavage with verification of <i>Streptococcus agalactiae</i>	Hotness, redness, pain, swelling, elevated body temperature	CRP 36 mg/dl	Purulence	<i>E. coli</i> <i>Streptococcus agalactiae</i>
46	One-stage revision arthroplasty	No cardinal signs of inflammation	Normal serum inflammatory markers, negative diagnostic aspiration, signs of infection in bone scintigraphy	Purulence	No verified microorganism, no signs of infection in histology
47	Arthroscopic lavage with signs of infection in histology	Hotness, swelling	Normal serum inflammatory markers, signs of infection in bone scintigraphy	Suspect scarred tissue, Purulence	<i>Staphylococcus epidermidis</i> <i>Staphylococcus warneri</i>
48	No infection	No cardinal signs of inflammation	Normal serum inflammatory markers, negative diagnostic aspiration, signs of infection in bone scintigraphy	Purulence	No verified microorganism, no signs of infection in histology
49	No infection	Hotness, redness, pain, swelling, elevated body temperature	CRP 5.7 mg/dl, signs of infection in diagnostic aspiration	Purulence	<i>Propionibacterium acnes</i>
50	No infection	Hotness, redness, pain, swelling, elevated body temperature	Normal serum inflammatory markers, negative diagnostic aspiration with verification of <i>Staphylococcus capitis</i>	No manifest infection	<i>Propionibacterium acnes</i>