



Fig. E-1A



Fig. E-1B

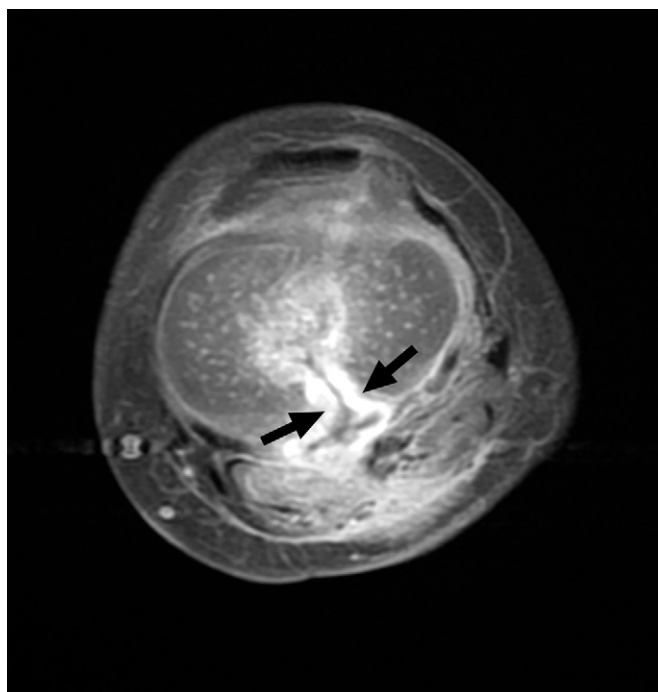


Fig. E-1C

Figs. E-1A through E-1D Images of Case 5, tuberculous osteomyelitis of the proximal tibial epiphysis in a girl with symptom onset at the age of twenty months. **Fig. E-1A** T1-weighted MRI shows a decreased signal intensity in the epiphysis of the proximal aspect of the tibia. **Figs. E-1B and E-1C** Despite surgical curettage and combination chemotherapy of isoniazid, rifampicin, and pyrazinamide for six months, the epiphyseal abscess extended to the metaphysis through the physis (**Fig. E-1B**, arrow), into the joint, and to the extra-articular soft tissues through the epiphyseal draining sinus (**Fig. E-1C**, arrows) at the posterior aspect of the epiphysis.



Fig. E-1D

Infection was eventually controlled, but physeal damage was evident on follow-up MRI (fat-suppressed T1-weighted image with gadolinium enhancement) at two years after initial surgery.

TABLE E-1 Previously Reported Cases of Primary Epiphyseal Osteomyelitis*

Authors (Yr)	Pathogens		Mode of Disease Onset
	Category	Organisms†	
Green et al. (1981) ¹¹	Bacterial	<i>S. aureus</i> (2), NI (6)	Subacute
Lindenbaum and Alexander (1984) ¹⁷	Bacterial	<i>Streptococcus</i> (1), <i>K. kingae</i> (1)	Subacute
Andrew and Porter (1985) ⁶	Bacterial	<i>S. pneumoniae</i> (1), NI (2)	Subacute
Rosenbaum and Blumhagen (1985) ¹	Bacterial	<i>H. influenzae</i> (2), <i>S. aureus</i> (1), <i>S. pneumoniae</i> (1), NI (6)	Subacute
Azouz et al. (1993) ⁷	Bacterial	<i>S. aureus</i> (3), <i>Streptococcus</i> (1), NI (4)	Subacute
Hempfling et al. (2003) ¹³	Bacterial	<i>S. aureus</i> (1), <i>S. pneumoniae</i> (1), <i>P. aeruginosa</i> (1)	Subacute
Kramer et al. (1986) ¹⁶	Bacterial	<i>S. aureus</i> (1)	Acute
Gibson et al. (1991) ¹⁰	Bacterial	<i>S. aureus</i> (1)	Acute
Longjohn et al. (1995) ¹⁸	Bacterial	<i>S. aureus</i> (1), NI (1)	Acute
Kao et al. (2003) ¹⁴	Bacterial	<i>S. aureus</i> (1), <i>S. enteritidis</i> (1)	Acute
Abdelgawad et al. (2007) ⁵	Bacterial	<i>Salmonella</i> type B (1)	Acute
Sorensen et al. (1988) ²²	Bacterial	<i>S. aureus</i> (1), NI (2)	NR
Nissen et al. (2001) ²³	Fungal	<i>C. albicans</i> (1)	NR
Hayek et al. (2003) ¹²	Mycobacterial	Nontuberculous mycobacterium (1)	Subacute
Peltola et al. (1984) ²⁶	Mycobacterial	<i>M. bovis</i> (BCG) (1)§	NR
Rasool et al. (1994) ²⁵	Mycobacterial	Tuberculosis (2)#	NR
Gardner and Azouz (1988) ⁹	Mycobacterial (1), NR (1)	Tuberculosis (1)***, NR (1)	NR for tuberculosis case (1), acute (1)
King and Mayo (1969) ¹⁵	NR	NR	Subacute
Ross and Cole (1985) ²¹	NR	NR	Subacute
Rasool (2001) ²⁰	NR	NR	Subacute
Ezra et al. (2002) ⁸	NR	NR	Subacute
Mehdinasab et al. (2007) ¹⁹	NR	NR	Subacute

*Numerals in parentheses = number of cases. NI = not identified, and NR = no record. †*S. aureus* = *Staphylococcus aureus*, *K. kingae* = *Kingella kingae*, *S. pneumoniae* = *Streptococcus pneumoniae*, *H. influenzae* = *Haemophilus influenzae*, *P. aeruginosa* = *Pseudomonas aeruginosa*, *S. enteritidis* = *Salmonella enteritidis*, *C. albicans* = *Candida albicans*, *M. bovis* = *Mycobacterium bovis*, and BCG = bacille Calmette-Guérin. ‡DF = distal aspect of the femur, PT = proximal aspect of the tibia, PF = proximal aspect of the femur, DT = distal aspect of the tibia, PH = proximal aspect of the humerus, GT = greater trochanter, DR = distal aspect of the radius, and DH = distal aspect of the humerus. §Four cases of epiphyseal osteomyelitis were reported, but only one case was confirmed as BCG osteomyelitis of the epiphysis. #Diagnosis was made by histologic examination. **Description of diagnostic methods was not available.

TABLE E-1 (continued)

Patient Data			Site†	Treatment	Complications
No.	Age Range (yr)	Sex (M:F)			
8	2-4	4:4	DF (5), PT (2), PF (1)	Surgery and antibiotics	None
2	2.6-4.2	1:1	DF (2)	Surgery and antibiotics	None
3	3.5-9	0:3	DF (2), DT (1)	Antibiotics	None
9 (10 cases)	1.8-9	8:1	DF (7), PT (2), PH (1)	Antibiotics	NR
8	1.8-10	4:4	DF (5), GT (2), PF (1)	Surgery and antibiotics	NR
3	2-7	1:2	DF (2), PF (1)	Surgery and antibiotics	Physeal involvement without growth disturbance (2)
1	11	1:0	DF (1)	Surgery and antibiotics	NR
1	6	1:0	DF (1)	Antibiotics	None
2	2-4.2	1:1	DF (1), PT (1)	Surgery and antibiotics	NR
2	2.3	1:1	DF (2)	Surgery and antibiotics	None
1	1.4	1:0	DF (1)	Surgery and antibiotics	Physeal involvement without growth disturbance
3	1.7-4	3:0	PT (2), DF (1)	Surgery and antibiotics (2), antibiotics (1)	Physeal involvement without growth disturbance (1)
1	0.6	NR	DF (1)	Surgery and antifungal agent	None
1	10	0:1	DF (1)	Rifampicin and clarithromycin	None
1	1.5	NR	PF (1)	Medication	Coxa magna and hip subluxation
2	3-8	1:1	DF (1), DR (1)	Antituberculosis medications	None (1), NR (1)
2	13	0:1 (tuberculosis), NR (1)	DF (2)	NR	NR
2	NR	NR	DF (1), DT (1)	Surgery and antibiotics	None
5	NR	NR	NR	Antibiotics with or without surgery	None
2	NR	NR	DF (1), PF (1)	NR	None
16	1-7.5	10:6	DF (8), GT (3), PH (2), DT (1), PF (1), DH (1)	Antibiotics	Physeal damage without growth disturbance (8)
2	4-14	1:1	GT (2)	Antibiotics	None