

Background

- Coccidioidomycosis, an infection caused by the dimorphic fungi of the genus *Coccidioides* (*C. immitis* and *C. posadasii*), is endemic in southwestern United States, along with Central and South America.
- Clinical manifestations ranges from self limited acute pneumonia to disseminated disease.
- Burden of coccidioidomycosis in central California is significant, especially among children.
- Limited literature on disseminated coccidioidomycosis, including musculoskeletal coccidioidomycosis (MSKC) currently exists.



Objectives

- Describe the epidemiology, diagnosis, medical and surgical findings, management, and outcomes of pediatric MSKC at a tertiary children's hospital.

Methods

- Retrospective review of patients ≤ 21 years old with MSKC, seen at our facility during 01/01/07 -04/01/18.
- Categorical values were compared using Chi-square tests.
- Continuous variables were expressed as median and interquartile range (IQR).

Results

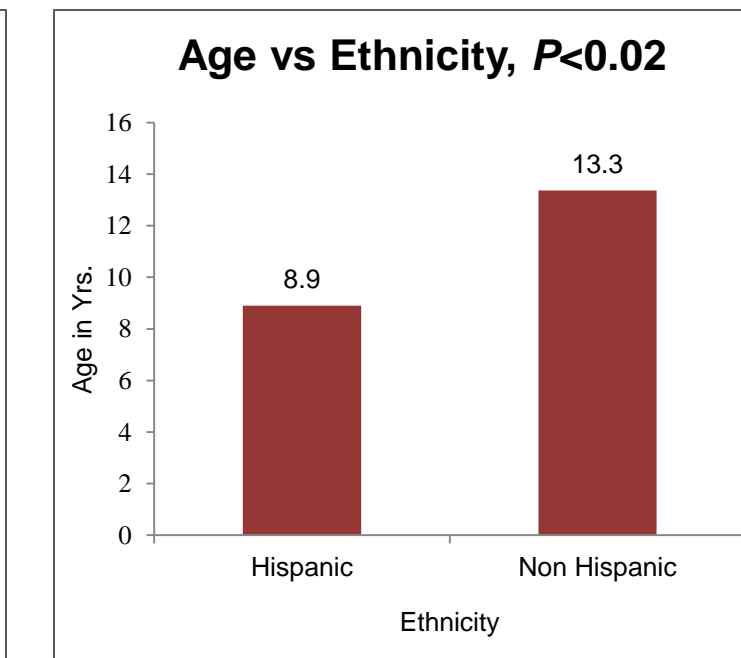
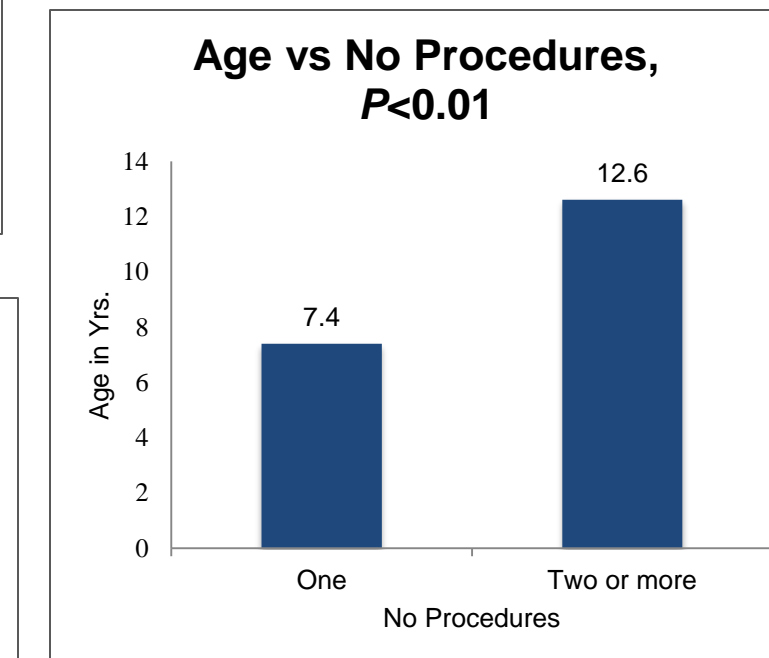
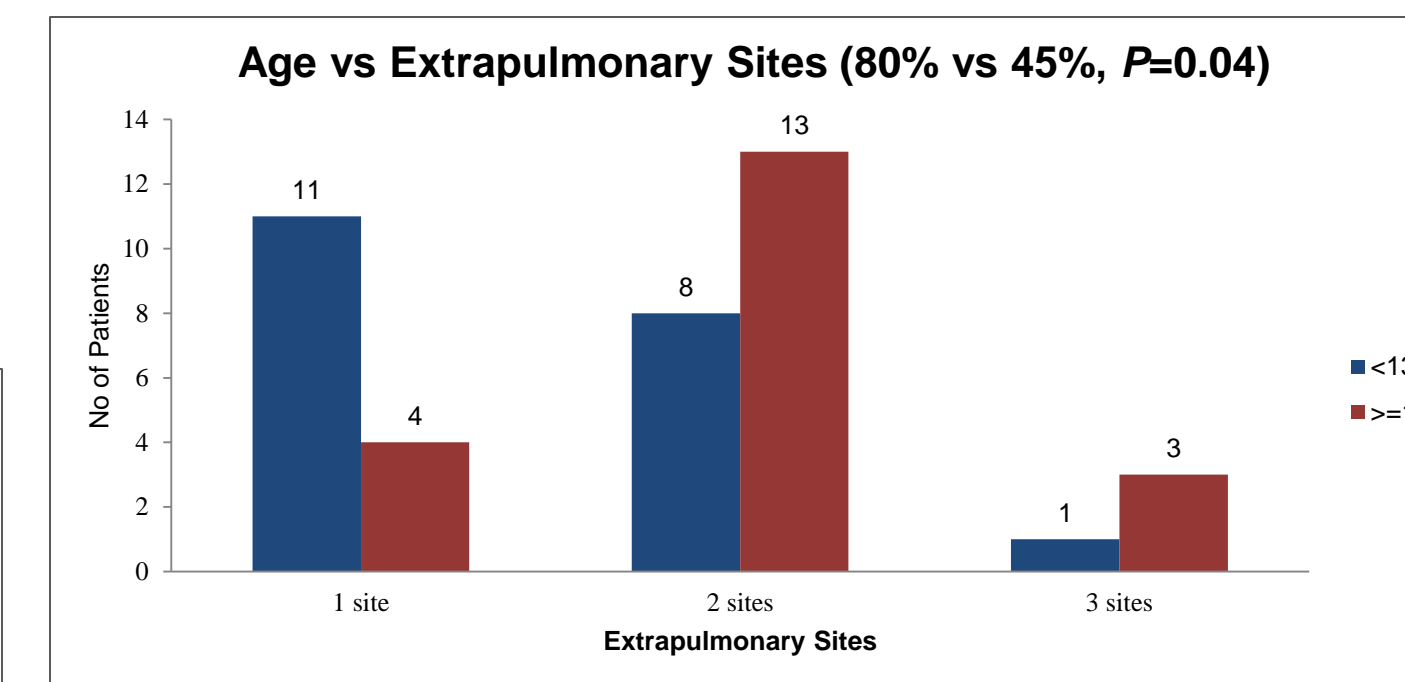
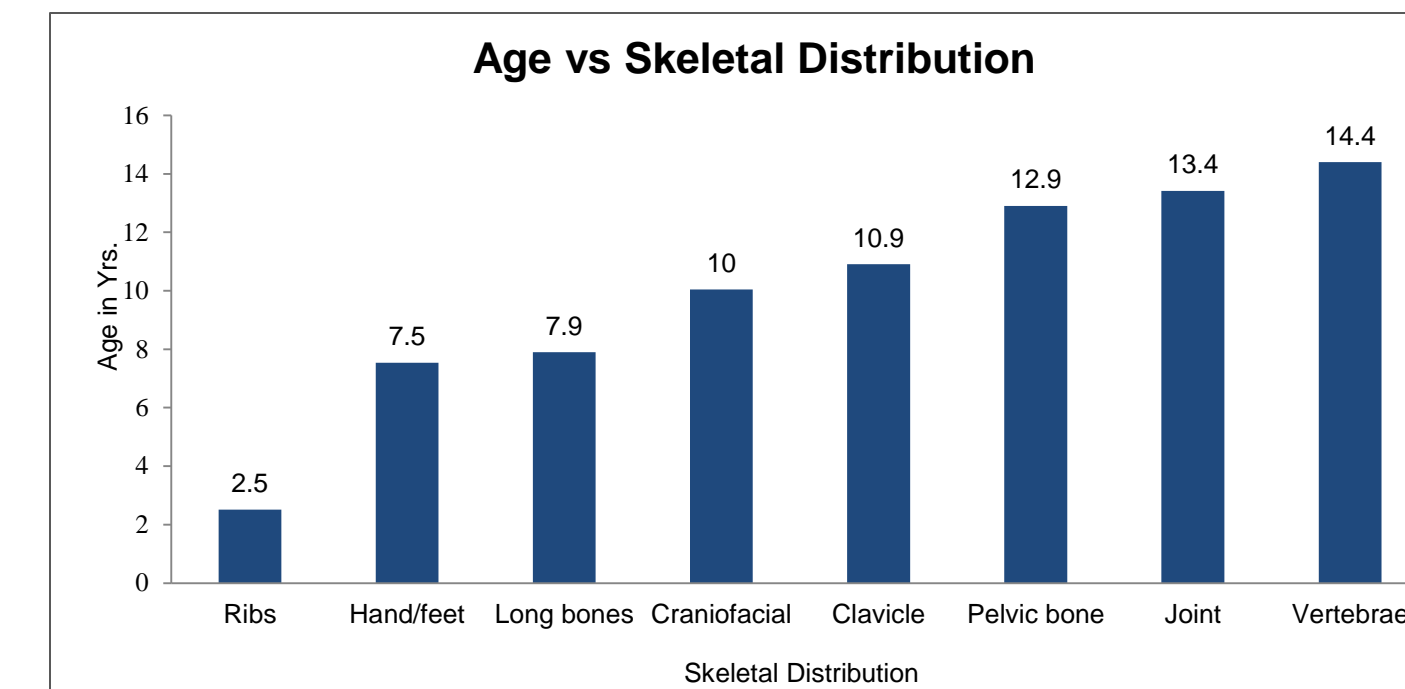
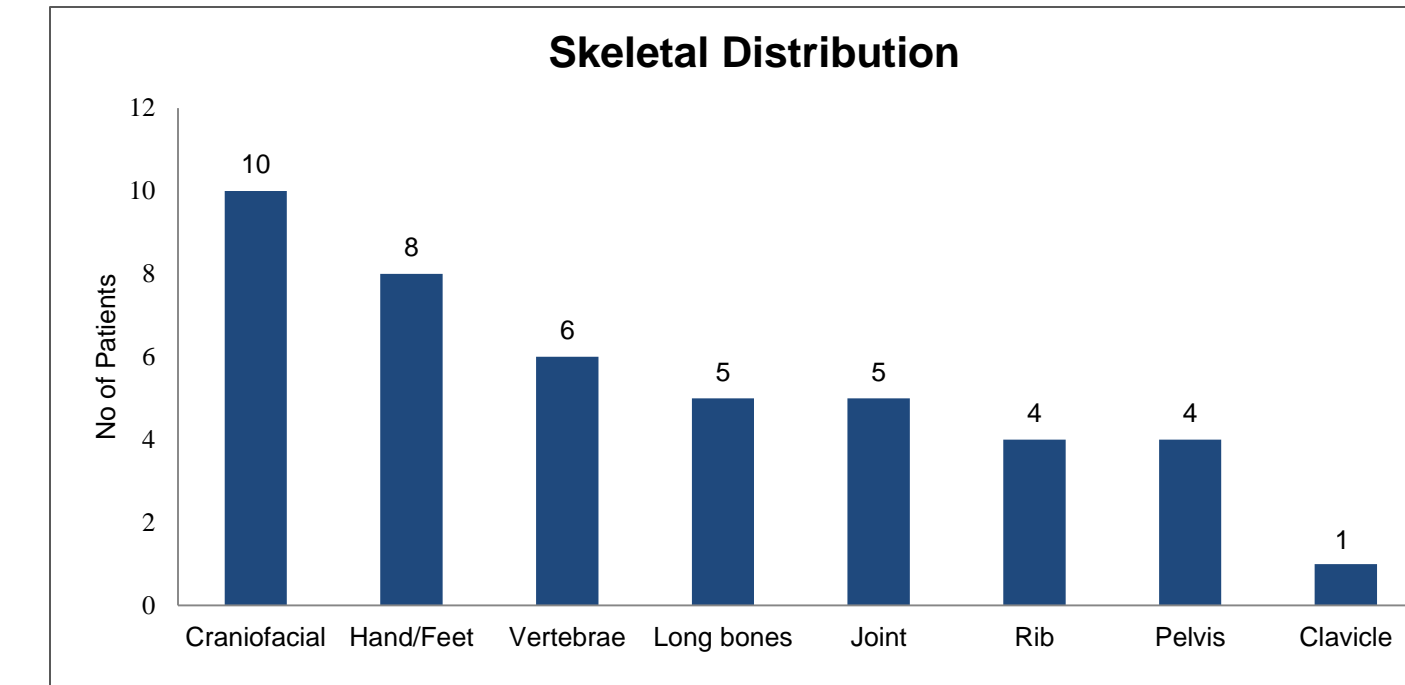
- Forty** patients with MSKC were identified.
- Baseline characteristics are summarized in Table 1.

Results

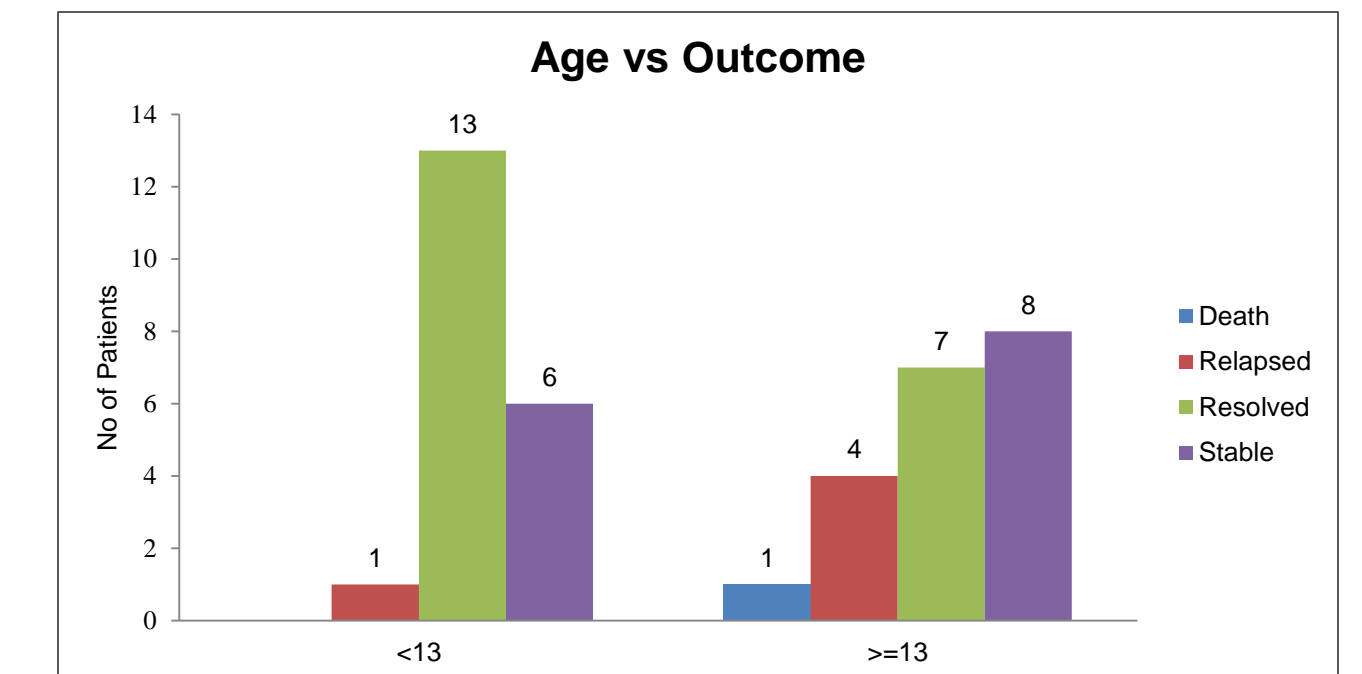
Table 1: Baseline Clinical Characteristics:

Characteristics	N (%)=40	Characteristics	N (%)=40
Age (yrs., median, IQR)	12.5 (5.3-14.8)	Symptoms	
Sex		-Limb swelling	26 (61)
-Male	28 (70)	-Bone pain	20 (50)
-Female	12 (30)	-Joint pain	18 (45)
Ethnicity		-Fever	17 (43)
-Hispanic	26 (65)	-Skin lesions/changes	15 (38)
-Caucasian	6 (15)	Duration of illness in days (median, IQR)	37 (17-75)
-African American	4 (10)	Pulmonary disease	24 (60)
-Asian Nonfilipino	4 (10)	CNS involvement	2 (5)
Comorbid conditions		Other organ involvement	13 (32)
-Healthy	28 (70)	Surgical procedure	31 (78)
-Immunocompromised	3 (8)	-Multiple procedures*	14 (45)
-Others	9 (22)	-Purulence	11 (35)
Hospitalization	34 (85)	-Necrotic Bone	7 (23)
Duration of Hospitalization in days (median, IQR)	44 (14-70)	Antifungal therapy	
Serologic Studies		-Single drug	10 (25)
-EIA	29/30 (96)	-Two or more drugs	30 (75)
-ID	36 (89)	Duration of treatment in years (median, IQR)	1.8 (1.1-2.4)
-Highest CF titers (median, IQR)	128 (32-256)	Outcome	
Follow up duration		-Stable or resolved	34 (85)
-1 year	12 (30)	-Stable	14 (35)
-2 or more years	27 (68)	-Relapsed	5 (13)
		-Death	1 (2)

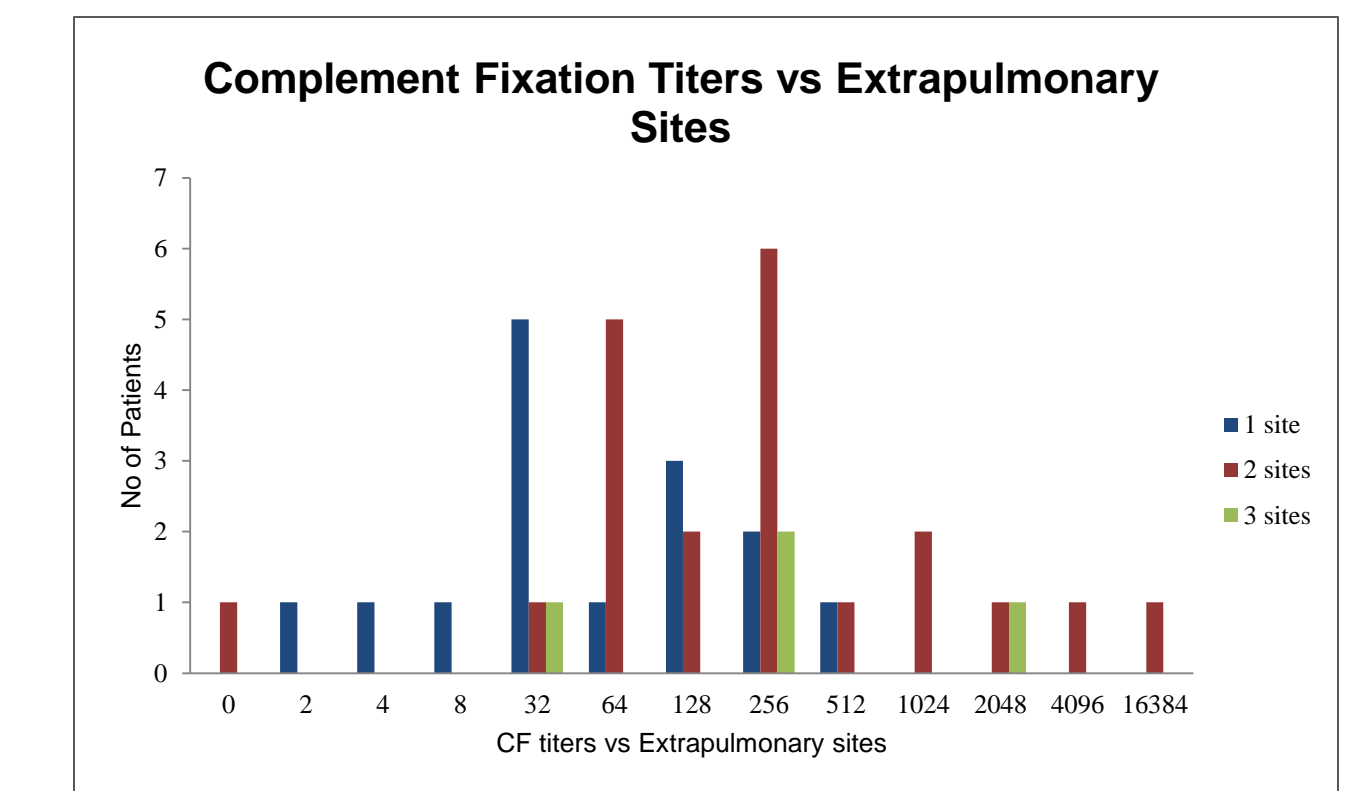
Results



Results



More relapse in older children but not statistically significant ($P=0.2$)



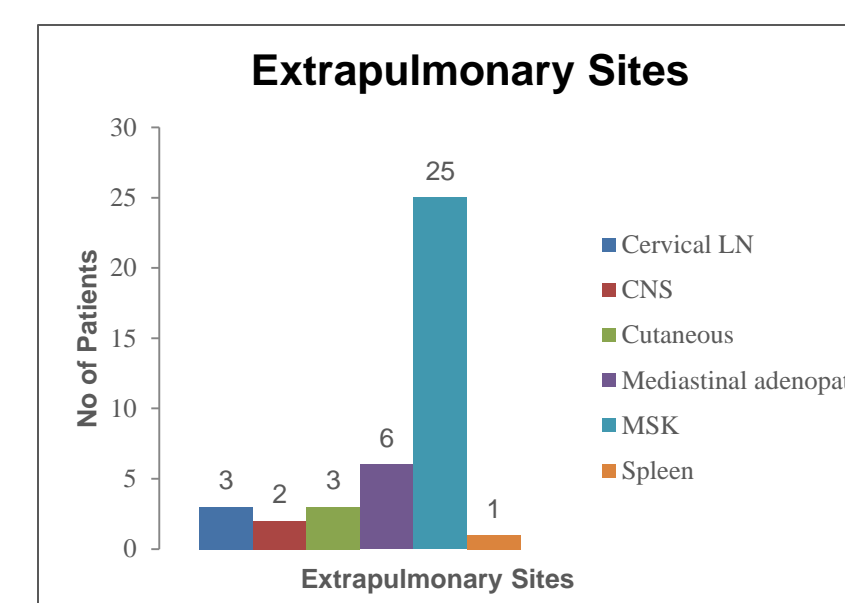
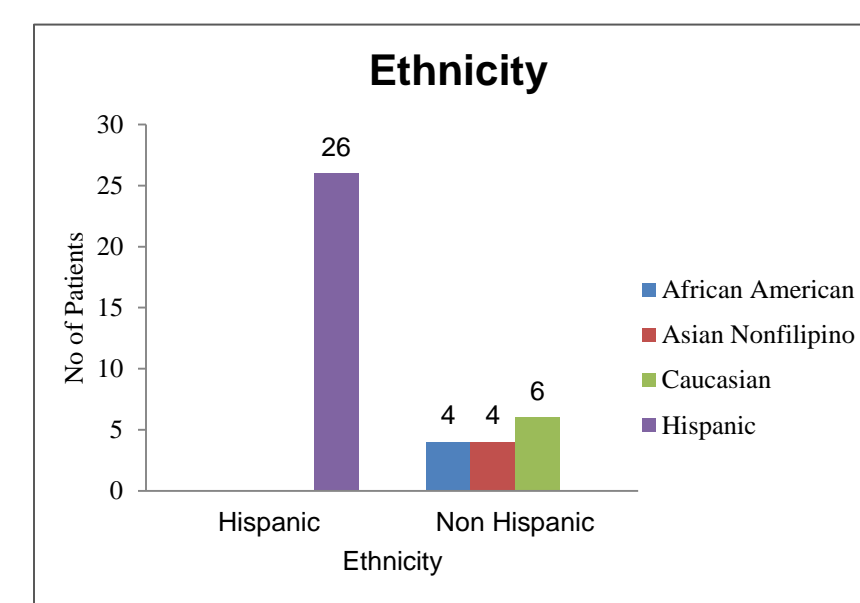
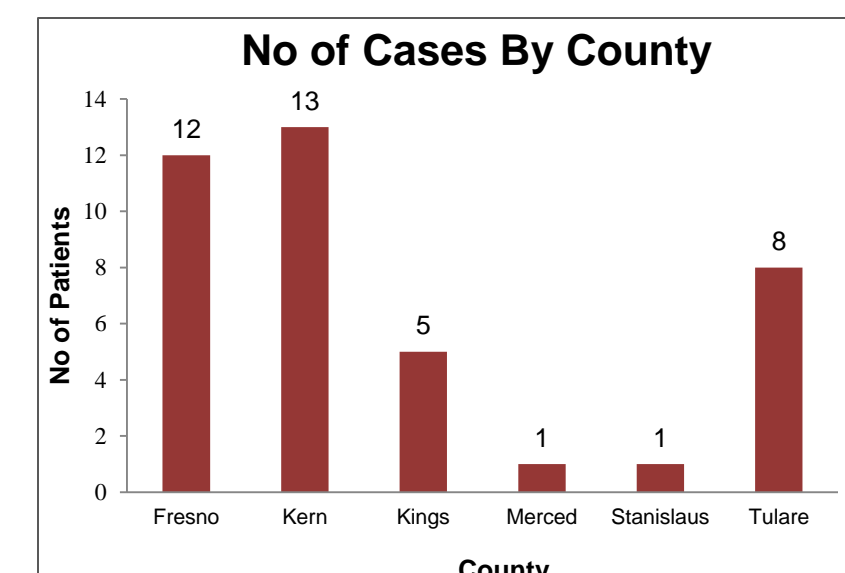
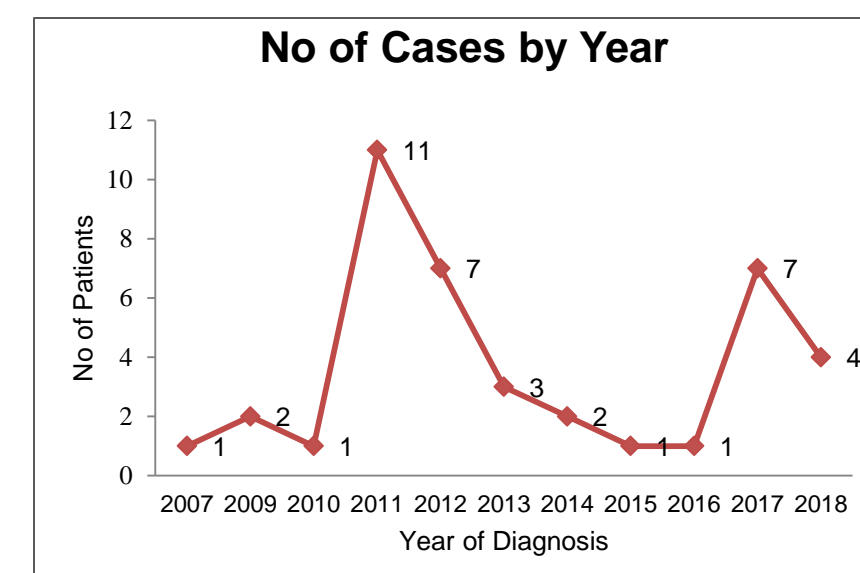
Higher cocci complement fixation titers (CF) trends seen towards patients with 2 or more organ involvement.

Conclusions

- To our knowledge, this is the largest reported case series and the first to describe follow up and outcomes in MSKC.
- We identify older age group as potential risk factors for vertebral MSKC, more organ involvement along with higher number of procedures and trend towards higher risk of relapse, perhaps indicating more severe disease.
- Prospective studies are needed to strengthen relationships between patient characteristics and adverse outcomes in pediatric MSKC.

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- Older children more likely to have 2 or more organ involvement ($P=0.04$), two or more surgical procedures performed ($P<0.01$) and trend noted towards more joint, vertebral, pelvic bone involvement.