ATYPICAL CARTILAGINOUS TUMORS: TRENDS IN MANAGEMENT

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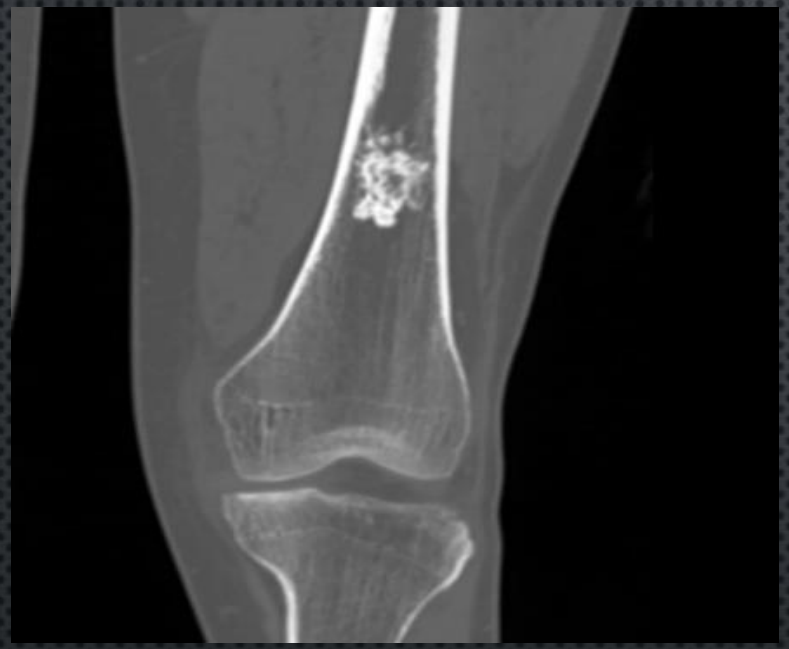
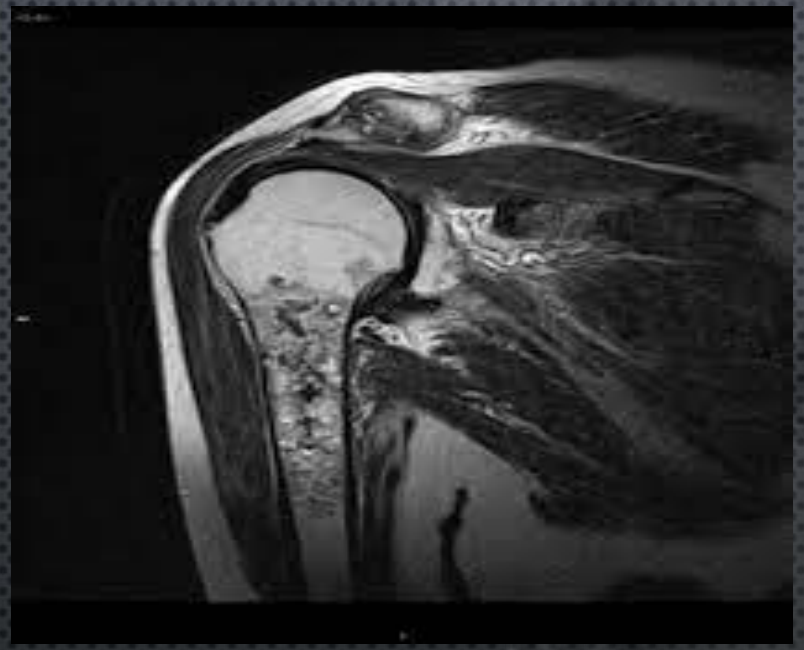
Osteochondroma/ Enchondroma



Atypical Cartilaginous Tumor



Chondrosarcoma

Case Reports in Orthopedics

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RESEARCH ARTICLE

Atypical Cartilaginous Tumors: Trends in Management

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JB&JS REVIEWS

Conventional Cartilaginous Tumors

Evaluation and Treatment

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Abstract

» Enchondromas are benign cartilaginous lesions that rarely require surgical intervention.

» Atypical cartilaginous tumors (ACTs), also referred to as grade-1 chondrosarcomas, may be managed without any intervention or with extended intralesional curettage and bone-void filling.

» High-grade chondrosarcomas, or grade-2 and 3 chondrosarcomas, should be managed aggressively with wide resection.

» Chemotherapy and radiation do not currently play a role in the treatment of chondrosarcomas.

» Differentiating an enchondroma from an ACT and an ACT from a high-grade chondrosarcoma can be difficult and requires clinical experience, radiographic and advanced imaging, and possibly a biopsy. Ultimately, a multidisciplinary team that includes a musculoskeletal oncologist, a radiologist, and a pathologist is needed to make the most appropriate diagnosis and treatment plan for each patient.

SEMANTICS

- Used to be known as grade 1 chondrosarcoma
- World health organization: low grade chondrosarcomas of the extremity
- Today: pragmatic team approach through a clinicoradiopathologic diagnosis

- Represents approximately 70% all patients newly diagnosed with cancer

Atypical Cartilaginous Tumors

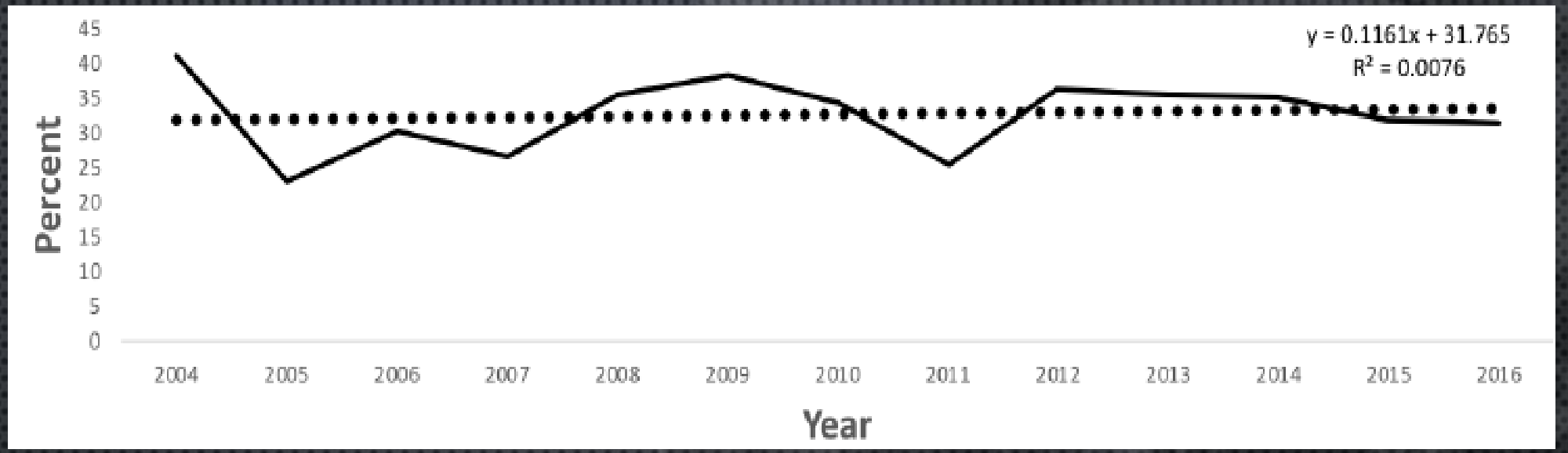
Intralesional

Wide Resection

		Extended Intralesional Excision	Wide Resection	p
		(n=586)	(n=588)	
Age	Years	49.3 ± 14.3	49.7 ± 15.8	0.716
Gender	Female	371 (52.1%)	341 (47.9%)	0.062
	Male	215 (46.5%)	247 (53.5%)	
Race	White	512 (50.0%)	512 (50.0%)	0.427
	Other	74 (49.3%)	76 (50.7%)	
Insurance Status	Not insured	26 (49.1%)	27 (50.9%)	0.888
	Insured	548 (50.0%)	547 (50.0%)	
Facility type	Community Hospital	59 (49.2%)	61 (50.8%)	0.69
	Academic Center	386 (51.1%)	369 (48.9%)	
Charlson Deyo Score	0	480 (49.3%)	493 (50.7%)	0.239
	1	89 (55.3%)	72 (44.7%)	
	≥2	17 (42.5%)	23 (57.5%)	
Hx of prior cancers	No	523 (50.0%)	522 (50.0%)	0.795
	Yes	63 (48.8%)	66 (51.2%)	

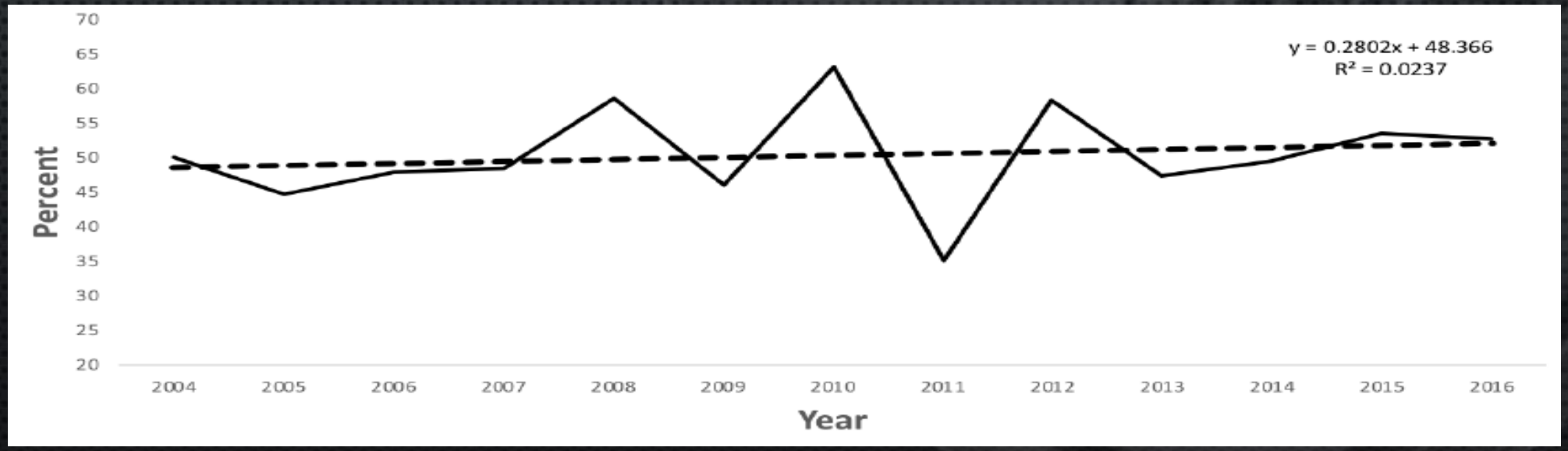
Patients who underwent diagnostic biopsy

(p=0.71)



Patients who underwent wide resection

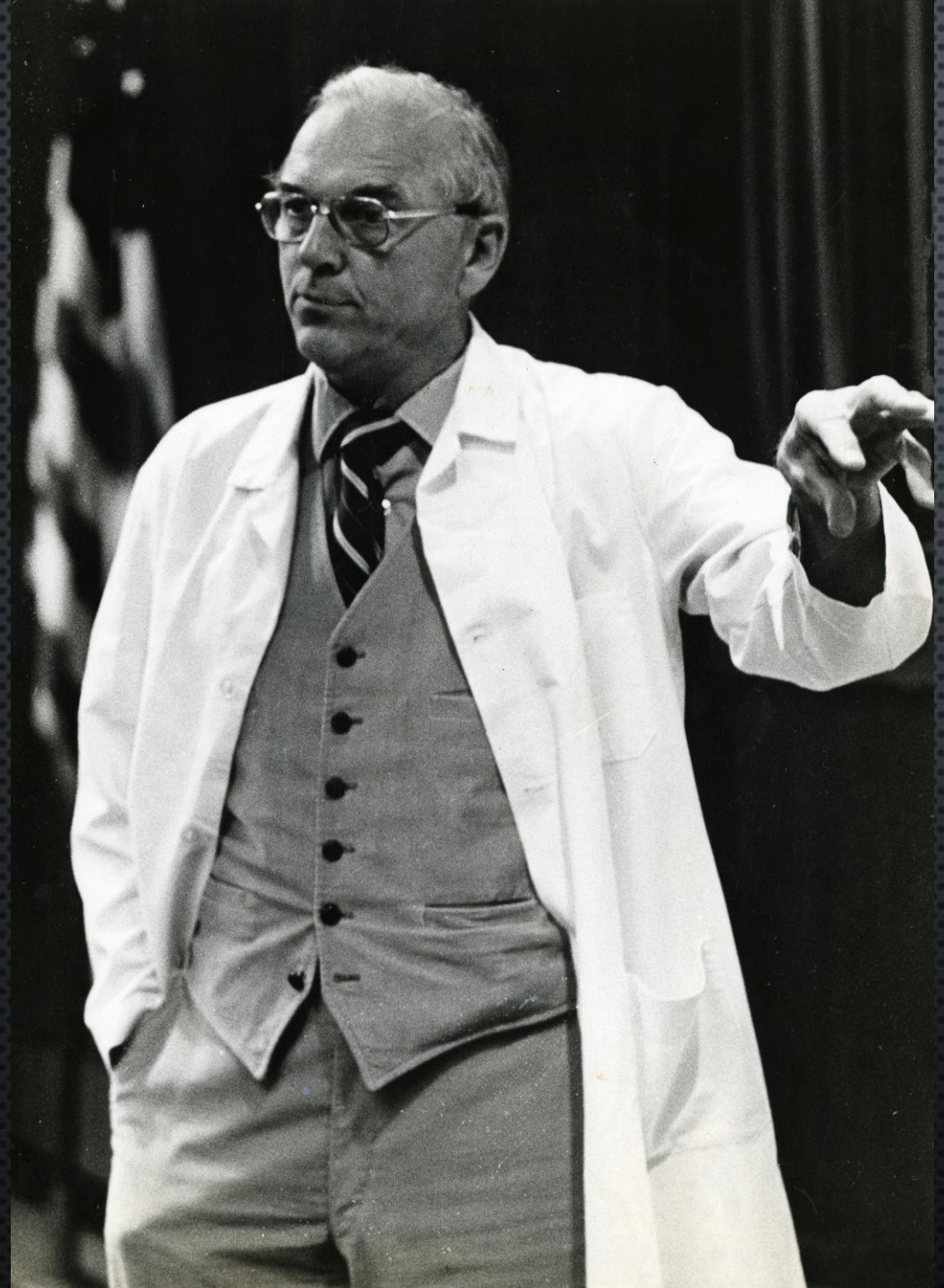
(p=0.53)



		Extended Intralesional Excision	Wide Resection	p	Odd's Ratio
		(n=586)	(n=588)		
AJCC Primary Tumor Size (T)	T1	296 (53.0%)	263 (47.0%)	<0.001	2.1 [1.5-3.0]
	T2	67 (33.8%)	131 (66.2%)		
Diagnostic Procedure	Biopsy Performed	448 (52.7%)	402 (47.3%)	0.003	
	No biopsy Performed	132 (42.7%)	177 (57.3%)		
Time from Dx to Definitive Surgery	Days	17.0 ± 52.8	21.2 ± 35.7	0.115	

CONCLUSION

- Controversy remains concerning the management of atypical cartilaginous tumors
- careful watching and waiting is appropriate
- Long term surveillance studies are needed



"Speed is an achievement, not a goal."

William F. Enneking
1926-2014