School of Medicine
UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS

Progression to Surgery in Adolescent Osteochondritis Dissecans of the Elbow

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* No disclosures

Children's Hospital Colorado

BACKGROUND & PURPOSE

- Osteochondritis dissecans (OCD) is the separation of subchondral bone and articular cartilage from underlying bone due to lack of blood supply
- Compare the characteristics and clinical outcomes of adolescent patients with OCD of the elbow who either progressed to surgery or did not

METHODS

- Performed a retrospective chart review of patients 5-18 years of age who were diagnosed with OCD of the elbow and underwent either conservative treatment and/or surgical intervention at Children's Hospital Colorado
- Demographic and radiographic variables included age, sex, skeletal maturity, range of motion, and lesion size
- Clinical outcomes included time to return to sport and need for second surgery
- Statistical analysis was performed using T-tests, Mann Whitney U tests, and Fisher's exact tests with Stata

RESULTS

Patient Characteristics

Progressed to Surgery?	Yes (n=34)	No (n=7)	P-Value
Stable Lesion	11 (32%)	7 (100%)	0.001
Sex			0.84
Male	16 (47%)	3 (43%)	
Female	18 (53%)	4 (57%)	
Age (years)	13.5 (1.9)	12.4 (2.5)	0.22
Skeletally Mature	7 (21%)	0 (0%)	0.31
Private Insurance	25 (74%)	6 (86%)	0.66
Loss of Range of Motion	27 (79%)	2 (29%)	0.02

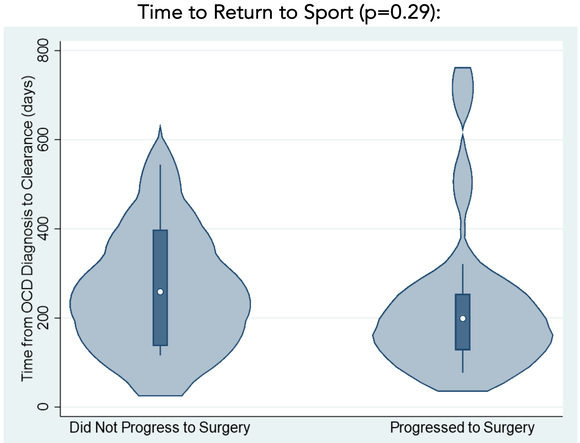
Radiographic Measurements

Progressed to Surgery?	Yes (n=11)	No (n=7)	P-Value
OCD lesion size: x-ray (mm)	108.0	73.6	0.07
OCD lesion size: MRI (mm)	135.5	119.0	0.53
Lesion Grade: MRI			<0.0001
Grade 1	2 (6%)	5 (71%)	
Grade 2	8 (26%)	1 (14%)	
Grade 3	3 (10%)	1 (14%)	
Grade 4	18 (58%)	0 (0%)	

Clinical Outcomes

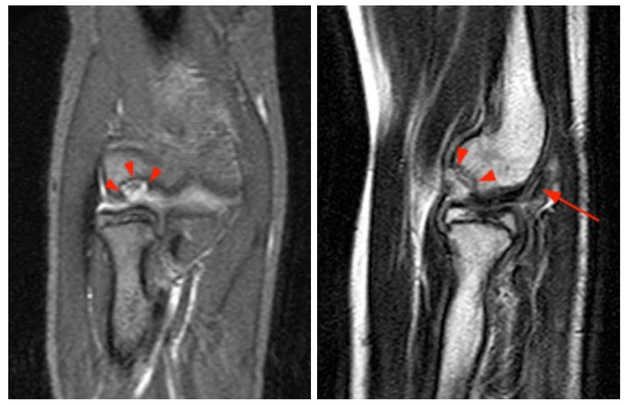
Progressed to Surgery?	Yes (n=11)	No (n=7)	P-Value
Time from initial visit to diagnosis	5.2 (8.7)	2.1 (3.3)	0.38
Need for Second Surgery	3 (9%)	0 (0%)	>0.99
Returned to Sport	32 (894%)	7 (100%)	>0.99

Time to Return to Sport (p=0.29):



Violin plot describing the distribution of time from OCD diagnosis to medical clearance to participate in sports in each group. Data are presented as median (center dot) and interquartile range (box around the median). The shaded blue area represents the probability density of data at each return to play time, smoothed using a kernel density estimator.

RADIOGRAPHIC IMAGES OF OCD



CONCLUSIONS

- Overall, patients who progressed to surgery had initially worse lesion grades and loss of range of motion in their elbow compared to those who had success with conservative treatment
- May be clinically useful to consider loss of range of motion and size of lesion when considering initial conservative treatment vs surgical intervention
- Long term outcomes, including need for second surgery and return of symptoms, should be further investigated
- Limitations to consider when interpreting these findings include the retrospective nature of the study as well as the short duration of the study period