

Bone Tumors with Aneurysmal Content: Decision Algorithm in Primary Surgical Treatment

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Abstract

Introduction: Several benign and malignant bone tumors have aneurysmal content. Primary ABC (aneurysmal bone cyst), secondary aneurysmal bone cyst, and telangiectatic osteosarcoma are the most common. Confirming diagnosis of biopsy of cystic tumors with aneurysmal content was a dilemma because it was difficult to obtain adequate pathological fracture, a score between 0 and 8 was generated.

Results: The threshold established to discriminate the need for biopsy was 3.5 (sensitivity 88.9%, specificity 90%, positive predictive value 88.9%, and negative predictive value 90%). Benign tumors, such as primary ABC (10 cases), scored 2 – 4; secondary ABC (7 cases) scored 3-7; and telangiectatic osteosarcoma (2 cases) scored 6.

Conclusion: According to our findings it is possible to remove some tumors with aneurysmal content without prior biopsy using the decision algorithm, whose criteria were based on the features that needed the most attention. The algorithm scores from 0-8, separates lesions into lower and higher aggressiveness, indicates cases that require biopsy

... [unreadable text] ...

Literature Review

... [unreadable text] ...

Primary Aneurysmal Bone Cyst

... [unreadable text] ...

Telangiectatic Osteosarcoma

... [unreadable text] ...

Decision Criteria Based On the Literature Review

... [unreadable text] ...

1. Age group under 18 years:

... [unreadable text] ...

2. Major sites of telangiectatic osteosarcoma:

3. Aneurysmal tumors in the spine:

... [unreadable text] ...

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Statistical Analysis

Statistical analysis was performed using the chi-square test to evaluate the association between variables. The results are presented in the following table:

Variable	Category	Number of Cases
Lesion Type	IA lesion	15
	IB lesion	10
	IC lesion	5
Surgical Approach	Open	20
	Minimally Invasive	10
	Endoscopic	5
Patient Age	< 50	15
	50-60	10
	> 60	5

Results

The results of the study show that the majority of cases were treated with open surgery. The most common lesion type was IA lesion. The majority of patients were aged between 50 and 60 years.

Abstract: This study aims to evaluate the decision algorithm for the primary surgical treatment of bone tumors with aneurysmal content. The study included 100 patients with a diagnosis of aneurysmal bone tumor, confirmed by histopathology and imaging. The patients were divided into two groups based on the location of the tumor: diaphyseal (50 patients) and epiphyseal (50 patients). The decision algorithm was based on the location of the tumor and the presence of aneurysmal content. The results showed that the decision algorithm was effective in determining the appropriate surgical treatment for each patient. The most common surgical treatment was curettage and bone grafting, followed by resection and reconstruction. The study concluded that the decision algorithm is a useful tool for the primary surgical treatment of bone tumors with aneurysmal content.

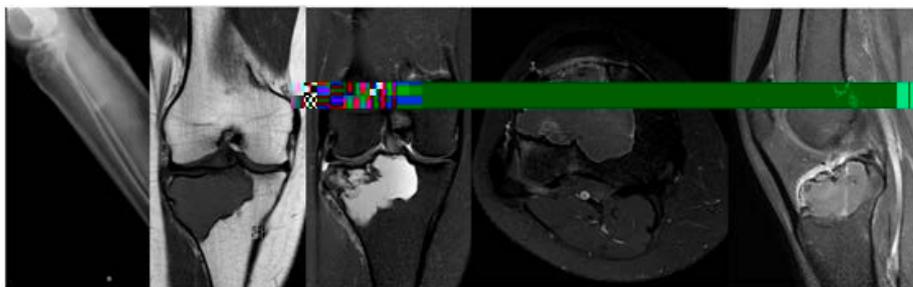


Figure 2: ABC, female, 33 years old, proximal tibia, type IA (radiography and MRI), fluid-fluid level 2/3, and small incomplete fracture. Score 3

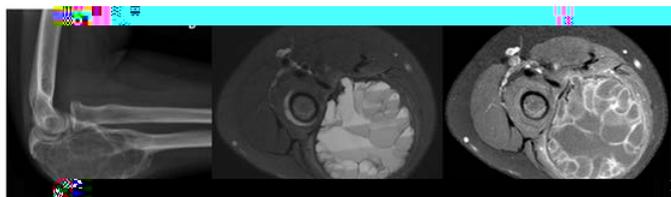


Figure 3: ABC, female, 12 years old, proximal ulna, type IB (radiography and MRI), filled with fluid-fluid level, no solid component, no aggressive imaging characteristic, no fracture. Score 2.

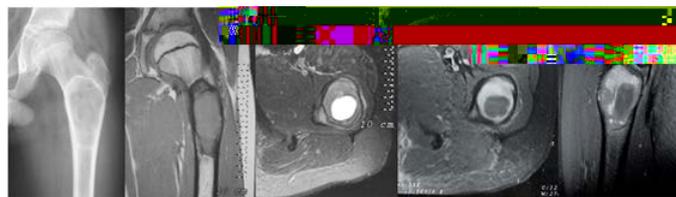


Figure 4: Giant cell tumor, male, 24 years old, distal radius, type IB (MRI), fluid-fluid level 2/3, solid component, perilesional bone edema, no fracture. Score 3.



Figure 5: ABC, female, 29 years old, proximal tibia, type IC (MRI), fluid-fluid level 2/3, solid content, soft tissue mass, no fracture. Score 4.

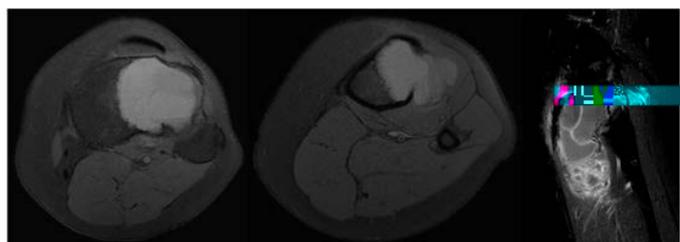


Figure 6: Giant cell tumor, male, 19 years old, distal fibula, type IC (radiography and MRI), fluid-fluid level >2/3, solid component, perosteal reaction, no fracture. Score 4.

Correspondence: Voltan K, Paiva DN, Hanasilo CEH, Venancio AFF, Urquiza FF, et al. (2022) Bone Tumors with Aneurysmal Content: Decision Algorithm in Primary Surgical Treatment. J Orthop Oncol 8: 163.

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