Liposarcoma or lipoma: does cytogenetics change the classical imaging criteria?


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INTRODUCTION

Liposarcoma tumours are common non-neurogenic lesions that can be benign or malignant. Lipomas are the most common neoplasms of soft tissues and liposarcomas are the second most common malignancy of soft tissues.

They are different from lipomas and liposarcomas and malignant morphologically. Computed tomography (CT) and Magnetic Resonance Imaging (MRI) are now considered standard in attempting to show fleshy masses and to look to the diagnostic criteria that include size over 30 mm (greatest dimension) non adipose component (fibrous or thick septa) and intramuscular location. These features are described as useful in attempting to diagnosis and to distinguish potential benign non fatty masses from malignant ones.

The imaging diagnosis for malignancy of soft tissue requires several radiological criteria. In order to be diagnosed as malignant, tumours must show a combination of size and non adipose component in order to be diagnosed as malignant. Size alone is not enough to make the diagnosis of malignancy.

The purpose of our study was to compare imaging criteria of malignancy to the new gold standard of pathology improved by cytogenetics and molecular genetics.

MATERIALS & METHODS

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RESULTS

Tumours of 11 females and 6 males (mean age = 57 years; age range 42 to 74 years) were reviewed. The imaging diagnosis for malignancy was accurate in 15 cases (fig 1,2,3,4), with hout false negatives, and with 4 false positive for malignancy. With these 4 false positive results, 3 were due to size only (fig 4) and 1 due to both large dimension and non adipose associated mass (fig 5).

The true negative imaging diagnosis (real benign fatty mass) was an intramuscular lipoma, well recognized thanks to inside muscular fibbers (fig 6).

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CONCLUSION

According to the new reference allowed by cytogenetic and molecular genetic studies, medical imaging remains very sensitive to diagnosis of liposarcoma.

To our knowledge imaging features studies with a larger number of patients have been previously done, but none of them used cytogenetic or molecular genetic examination. Principal pitfalls for false positive diagnosis of liposarcoma are: size and non adipose component.

Size can lead to false positive diagnosis for both radiologist and pathologist. Cytogenetics allows the right diagnosis and confirms that any homogeneous fatty tumour can be a lipoma, even if it is large and in a deep location.

REFERENCES