

Assessment of Myometrial masses: comparative accuracy of ultrasonography and magnetic resonance imaging

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BACHKGROUND

Accurate mapping of uterine masses is crucial for clinical management. While ultrasonography is a cost-effective tool, it is operator-dependent. Magnetic resonance imaging, though more expensive, is considered the most sensitive

AIM

To compare magnetic resonance and ultrasound imaging for uterine fibroid measurement, localization and characterization.

METHODS

a prospective study of 25 women undergoing surgery for myometrial masses. Myometrial masses were mapped (according FIGO classification) by magnetic resonance imaging and ultrasonography (transabdominal +/- transvaginal). The results were compared and matched with surgical and pathological finding.

RESULTS

Ultrasonography detected 66 myometrial tumours among 114 (sensitivity: 57.9%). There was a poor agreement between the number of lesions between ultrasound and pathological findings in terms of number of lesions. ($\text{Rho}=0.4$), the agreement was good in terms of size ($\text{Rho}=0.85$). Regarding the topography, the agreement was intermediate for lesions type 0, poor for lesions type 1 or 2, intermediate for lesions type 3 or 4, and type 2-5, and good for lesions type 5 or 6 and type 7.

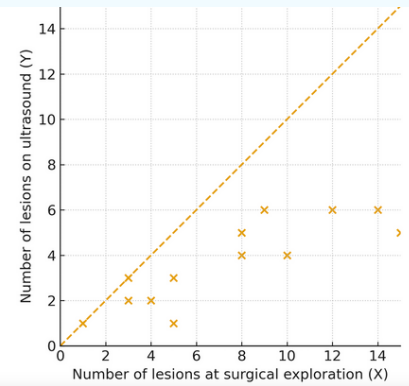


figure 1: surgery vs ultrasound lesion counts

	Type 0	Type 1-2	Type 3-4	Type 5-6	Type 2-5	Type 7	Total
Lesion detected on ultrasound	2	3	32	18	11	2	66
Lesion non detected on ultrasound	2	7	14	2	19	2	48
total	4	10	46	20	30	4	114

table 1: Concordance between the topography of lesions on ultrasound and surgical exploration

Pelvic MRI detected 109 tumours among 114 (sensitivity: 95.6%) There was a good agreement between MRI and pathological findings in terms of number and size. Concerning lesions topography, we found a perfect agreement in terms of lesions type 0 and 7. A good agreement concerning the type 5 or 6. The agreement was intermediate for lesions type 1, 2, 3, 4 and 2-5.

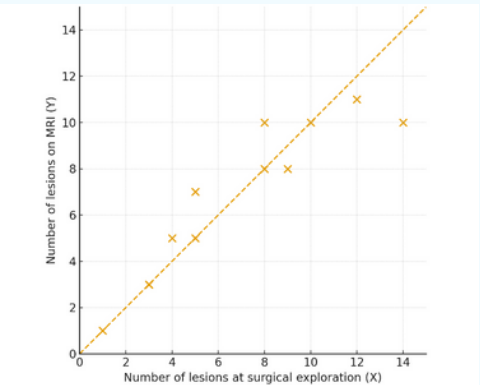


figure 2: number of lesions on MRI vs surgical exploration

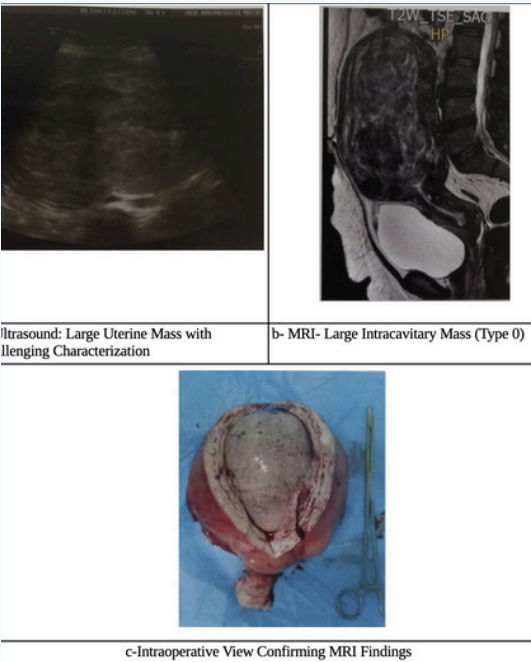


figure 3 : an example showing the superiority of MRI within a large unique myometrial mass.

CONCLUSION

Ultrasonography is as effective as MRI in detecting myometrial tumors; however, MRI may be preferred for assessing myometrial tumors, particularly in cases of large uteri and multiple masses.