

# Antimullerian Hormone and Inhibin B as markers of the ovarian reserve in puberty after ovariectomy

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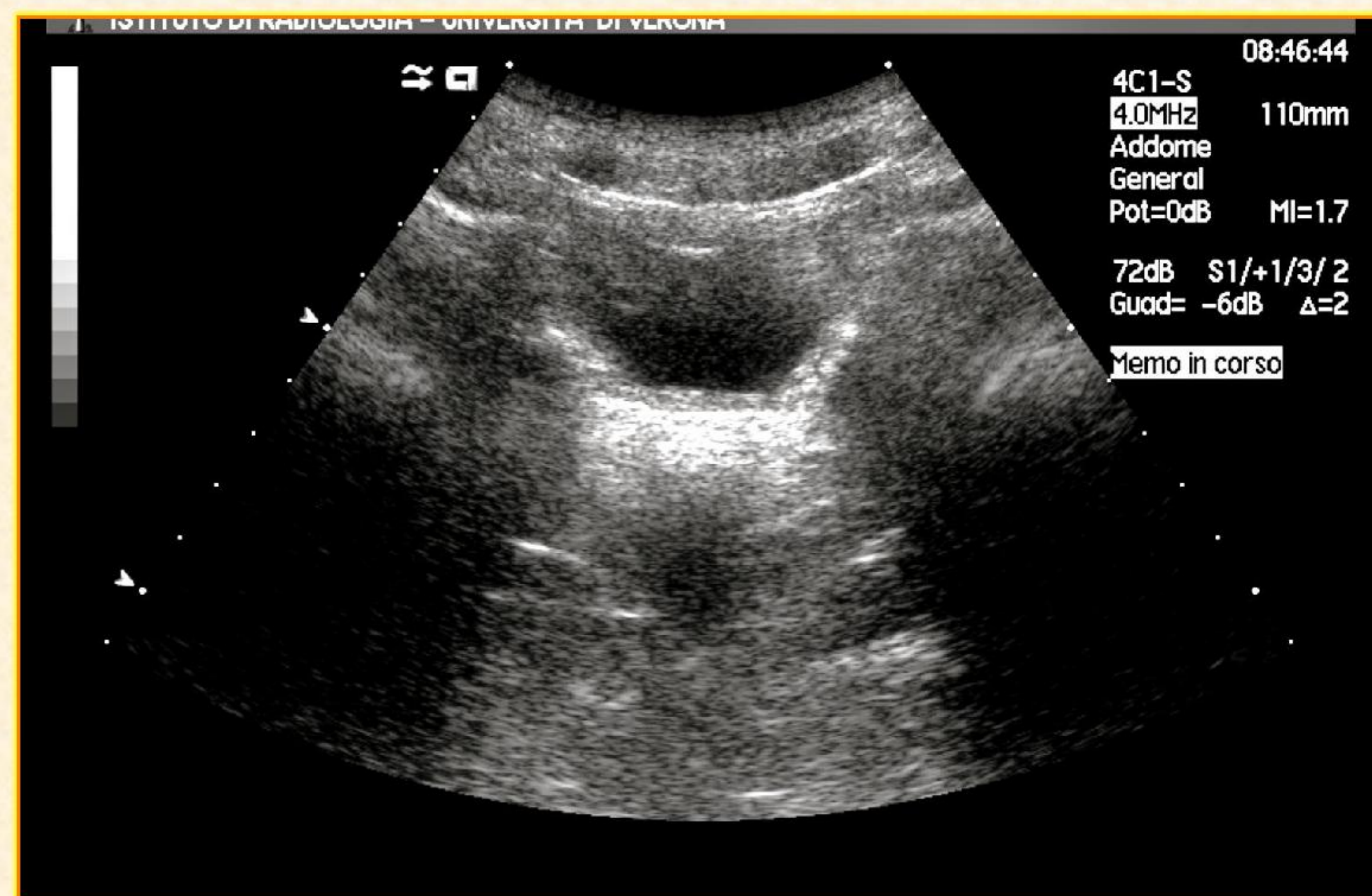
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## Introduction

Ovarian reserve is defined as the functional potential of the ovary, which reflects the number and quality of the follicles left in the ovary at any given time. In literature there studies about the evaluation of ovarian reserve after ovariectomy for tumors and cysts, using serum markers, such as inhibin-B, and anti-Mullerian hormone (AMH), combined to ultrasonographic markers, in adult women but none in peri-pubertal girls.

## Case Report

We report the case of a 10-years and 11-months old girl, who came to our attention to assess her pubertal development. At 2 weeks of life she underwent the removal of both the right ovary because of a neonatal torsion and a cyst of the left ovary, probably of therato-amartomatous origin. At our visit she had a height between the +1 and + 2 SD and a weight between the M and + 1 SD for sex and age, with a pubertal stage of P1, T1 and A1, according to Tanner. Bone age radiograph showed a bone age correspondent to her chronological age, using the standards of Greulich and Pyle. The abdomen ultrasound revealed the presence of a prepubertal uterus with no ovaries nearby.



	Basal value	After stimulus
<b>FSH (U/L)</b>	161	328
<b>LU (U/L)</b>	27	176
<b>Estradiol (pmol/L)</b>	99.5	93.2
<b>Inibin B (ng/L)</b>	< 0.08	
<b>AMH (mcg/L)</b>	< 2.6	

We performed the **GnRh test**, which revealed a hypergonadotrope hypogonadism ( FSH and LH before the stimulus of 161 U/l and 27.8 U/l and after the stimulus of 328 U/l and of 176 U/l respectively, with no estradiol increase, 99.5 and 93.2 pmol/l before and after the GnRh test). To understand if she had a minimal ovarian function, we evaluated finally her **AMH and Inibin B concentration: both hormone were very low (AMH < 0.08 mcg/l and Inibin B < 2.6 ng/l)**, so we decide to begin estrogen, at a minimal dose of 25 mg, as replacing therapy.

## Conclusion

We suggest that **AMH and Inhibin B**, in association to the standard tests to study the pubertal development, could help in understanding the real ovarian reserve of pubertal girls after ovarian surgery, optimizing the Estrogen Replacement Treatment beginning.

## References:

Serum anti-Mullerian hormone level is a useful marker for evaluating the impact of laparoscopic cystectomy on ovarian Reserve; Fertil Steril 2010;94:2846–9

