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The role of anti-Müllerian hormone (AMH) in women with polycystic ovary syndrome (PCOS) – An Integrative Literature Review

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The role of antimüllerian hormone (amh) in women with polycystic ovary syndrome (PCOS) – integrative review of the literature

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ABSTRACT: Polycystic Ovary Syndrome (PCOS) is a complex endocrine-metabolic disorder affecting women of reproductive age. Recently, anti-Müllerian hormone...
AMH, produced by granulosa cells of antral and pre-antral follicles, has emerged as a crucial biomarker in the pathogenesis and diagnosis of PCOS. The aim of this study was to analyze the current scientific evidence on the role of AMH in women diagnosed with PCOS through an integrative literature review. Data searches were conducted in indexed databases (such as PubMed, SciELO, and Lilacs) using combined descriptors. The results demonstrated that women with PCOS have significantly elevated AMH levels, which correlates directly with the severity of the clinical phenotype, chronic anovulation, and polycystic ovarian morphology on ultrasound.

Furthermore, evidence indicates that AMH plays an inhibitory role in normal folliculogenesis and follicular sensitivity to follicle-stimulating hormone (FSH). It is concluded that AMH is a promising diagnostic and prognostic tool in PCOS, faithfully reflecting the follicular pool and the severity of ovulatory dysfunction, although there is still a need for international standardization of laboratory assays for its full inclusion in formal diagnostic criteria.

Keywords: Polycystic Ovary Syndrome; Anti-Müllerian Hormone; Biomarkers; Folliculogenesis

ABSTRACT: Polycystic Ovary Syndrome (PCOS) is a complex endocrine-metabolic disorder that affects women of reproductive age. Recently, Anti-Müllerian Hormone (AMH), produced by the granulosa cells of preantral and antral follicles, has emerged as a crucial biomarker in the pathogenesis and diagnosis of the syndrome. This study aimed to analyze current scientific evidence regarding the role of AMH in women diagnosed with PCOS through an integrative literature review. Data were collected from indexed databases, including PubMed, SciELO, and LILACS, using combined descriptors. The results demonstrated that women with PCOS present significantly elevated AMH levels, which are directly correlated with the severity of the clinical phenotype, chronic anovulation, and polycystic ovarian morphology observed by ultrasound.

Furthermore, evidence suggests that AMH plays an inhibitory role in normal folliculogenesis and in follicular sensitivity to Follicle-Stimulating Hormone (FSH). It is concluded that AMH is a promising diagnostic and prognostic tool in PCOS, accurately reflecting the follicular pool and the severity of ovulatory dysfunction. However, international standardization of laboratory assays is still required for their full inclusion in formal diagnostic criteria.

Keywords: Polycystic Ovary Syndrome; Anti-Müllerian Hormone; Biomarkers; Diagnosis; Women's Health.

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1. INTRODUCTION

Polycystic Ovary Syndrome (PCOS) is one of the most common endocrine disorders. Frequent in women of reproductive age, affecting between 8% and 13% of this population. It treats- It is a multifactorial condition characterized by reproductive, metabolic, and dysfunctions. hormonal, which manifests mainly as menstrual irregularities, chronic anovulation and hyperandrogenism. In addition to its impacts on fertility, PCOS is associated with development of insulin resistance, obesity, type 2 diabetes mellitus and alterations cardiovascular diseases, which represent a significant public health problem (BRAZIL, 2025; FEBRASGO, 2021).

Diagnosing PCOS remains a challenge in clinical practice. Currently, The Rotterdam criteria are the most widely used and establish that the diagnosis can be... Performed when at least two of the following criteria are present: oligo- or anovulation. Clinical or laboratory hyperandrogenism and polycystic ovarian morphology identified by ultrasound. However, the application of these criteria has limitations, especially with regard to the variability in ultrasound evaluation and the lack of standardization of some laboratory tests used in hormonal investigation, factors that can hinder the Early identification of the syndrome (TEDEESCO et al., 2018; FEBRSGO, 2021).

In this context, anti-Müllerian hormone (AMH) has been attracting increasing interest. AMH is a glycoprotein that can be used as a potential auxiliary biomarker in the diagnosis of PCOS. belonging to the transforming growth factor beta (TGF-ÿ) superfamily, produced by the granulosa cells of the pre-antral and small antral ovarian follicles. Its main Its function is related to the regulation of follicular recruitment and development. As its Production is directly associated with the number of growing follicles and their serum levels. They are widely used as markers of ovarian reserve. (ROMÃO; NAVARRO, 2013; DURLINGER et al., 2002).

The association between AMH and PCOS is related to an increased number of follicles. Antral pain characteristic of the syndrome. Women with PCOS frequently present with... Higher serum concentrations of AMH than those of women without the disease. Studies They suggest that this hormone may act as a complementary marker to the methods. conventional diagnoses, contributing to greater accuracy in identifying the different phenotypes of the syndrome and assisting in the clinical monitoring of patients. (ROMÃO NAVARRO MACIEL; BARACAT; SÁ, 2018).

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Given the clinical relevance of PCOS and the limitations observed in the methods Based on currently employed diagnostic methods, the present study aims to analyze the Applicability of Anti-Müllerian Hormone (AMH) as an auxiliary biomarker in Diagnosis of Polycystic Ovary Syndrome. Furthermore, this study seeks to discuss its relationship... with the diagnostic criteria for the syndrome and its potential as a complementary tool for to optimize the identification and monitoring of patients.

2. THEORETICAL FRAMEWORK

Polycystic Ovary Syndrome (PCOS) is the most common endocrine-metabolic disorder. common among women of reproductive age, with a prevalence ranging from 5% to 20%, depending on the diagnostic criteria adopted and the population studied (TEEDE et al., 2018). This is a condition of multifactorial etiology, characterized by the intersection between Dysfunctions in the hypothalamic-pituitary-ovarian axis, hyperinsulinemia, and genetic alterations.

Historically, the diagnosis of PCOS was standardized by the Rotterdam Consensus. which established the need for at least two of the three criteria: oligo- or anovulation, signs clinical or laboratory findings of hyperandrogenism and polycystic ovarian morphology ultrasound (ROTTERDAM ESHRE/ASRM-SPONSORED PCOS CONSENSUS) (WORKSHOP GROUP, 2004). The understanding of the pathophysiology of PCOS has evolved from the view purely ovarian to a complex clinical spectrum, which includes insulin resistance, metabolic disorders and long-term reproductive implications (AZZIZ et al., 2016).

Anti-Müllerian hormone (AMH) is a dimeric glycoprotein belonging to AMH is a superfamily of beta growth factors. In women, AMH is produced exclusively by the granulosa cells of the pre-antral and small antral follicles, acting as an important modulator of follicular development (LA MARCA et al., 2010). Its Its main physiological function is the regulation of initial follicular recruitment, inhibiting the transition. from the primordial follicles to the growth stage and reducing the sensitivity of the follicles antral to follicle-stimulating hormone (FSH) (DURLINGER et al., 2002).

Due to this specific origin, serum AMH levels reflect the size of the stock of growing follicles, making it the most reliable endocrine marker for the assessment of ovarian reserve throughout a woman's reproductive life (BROEKMANS et al., 2009). Pathophysiology of PCOS and its relationship with AMH. In PCOS, a dysregulation is observed. intrinsic folliculogenesis, characterized by the arrest of follicular development in

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pre-antral and early antral stages. This process results in the pathological accumulation of small antral follicles in the ovarian cortex (PELLATT et al., 2007).

As each of these small follicles secretes AMH, the follicular mass increases. PCOS leads to a significantly higher production of the hormone compared to women without the syndrome (DEWAILLY et al., 2011). Studies show that AMH concentrations in patients with PCOS can be two to four times higher than than those observed in healthy controls. In addition to the numerical increase in follicles, it is speculated- It is known that each granulosa cell in ovaries with PCOS exhibits overproduction of AMH, which creates a direct correlation exists between elevated levels of this hormone and the severity of the condition. hyperandrogenism and anovulation (PIGNY et al., 2003).

The use of AMH as a diagnostic biomarker has gained prominence due to... its ability to reflect ovarian morphology in a quantitative and less subjective way than that transvaginal ultrasound. While the antral follicle count (AFC) by Ultrasound performance depends on the examiner's skill and the quality of the equipment, the AMH It offers the advantage of a standardized serum dosage (SAHMAY et al., 2014). Evidence Scientific studies suggest that AMH exhibits high sensitivity and specificity in identification. of the morphology of polycystic ovaries.

However, despite its promise, the literature emphasizes that AMH should not, In isolation, it is not about replacing established clinical and laboratory criteria, but rather acting as... a complementary marker, especially in situations where ultrasound is technically difficult or unfeasible (TEEDE et al., 2018).

The potential of AMH as an early diagnostic tool for PCOS is significant. allowing for the identification of the syndrome, including in adolescents, for whom the diagnosis Ultrasound examination is often challenging due to the immaturity of the reproductive axis. Furthermore... Since diagnosis, AMH has been explored as a prognostic marker and Therapeutic monitoring, assisting in the classification of PCOS severity and in the evaluation. of the response to ovulation induction (LA MARCA et al., 2016). However, the main challenge The obstacle to the definitive incorporation of AMH into global clinical guidelines lies in the lack of Standardization of laboratory tests and reference values (cut-offs), which may vary. according to the methodology employed. Harmonization between different platforms of Immunoassay is therefore the next crucial step for AMH to become established as a universal biomarker in clinical practice focused on PCOS.

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3. MATERIALS AND METHODS

This is a descriptive literature review study conducted through...
Search conducted in the Virtual Health Library (VHL). The research was carried out with the objective of identify scientific publications on the use of anti-Müllerian hormone (AMH) as
Diagnostic biomarker for polycystic ovary syndrome (PCOS).

As inclusion criteria, articles published in the last five years were selected.
years, available in open access (free full text) and that addressed the topic of
Interest in the title or abstract was excluded. Duplicate studies and unavailable papers were excluded.
in full and publications not directly related to the proposed theme after reading the titles and summaries.

After applying the eligibility criteria, 14 articles were selected for
to compose the final sample for the review. The studies were submitted to full-text reading and analysis.
qualitative and used to support the discussion in this work. For systematization
From the information, a table was created with the following variables: study title, objective,
type of study and main conclusions, which allows for comparison and critical synthesis of
evidence found.

4. RESULTS AND DISCUSSION

The search strategy resulted in the selection of 14 articles that met the criteria of
inclusion previously established. The publications analyzed presented different
methodological designs, including observational studies, retrospective research,
prospective studies and literature reviews, highlighting the growing scientific interest in
investigation of anti-Müllerian hormone (AMH) as an auxiliary tool in the diagnosis of
polycystic ovary syndrome.

The organization of the studies in a table (Table 1), containing title, objective, type of
The study and conclusion allowed for the synthesis of the main available evidence. In general,
The articles indicated that AMH shows potential as a diagnostic biomarker for PCOS.
demonstrating an association with alterations in ovarian function and with clinical characteristics of
syndrome. However, several studies have highlighted that its isolated use still presents
limitations, especially due to the absence of universally standardized cutoff values and
due to the influence of factors such as age, the laboratory method used, and the characteristics

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population-based. Taken together, the evidence suggests that AMH may represent a an important complement to traditional diagnostic criteria, contributing to a A more accurate assessment when interpreted in conjunction with clinical, hormonal and... ultrasound scans.

Table 1 – Summary of articles selected from the BVS database

Title/Year	Objective	Methodology	Conclusion
Anti-Müllerian hormone as a diagnostic and prognostic marker in polycystic ovary syndrome: a clinical study / 2025	Evaluate the role of anti-clinical hormones Müllerian hormone (AMH) in women with polycystic ovary syndrome (PCOS), investigating its potential as a marker for early detection of the disease.	Study of	This study demonstrated a relationship between PCOS risk factors and concentrations of AMH, suggesting that low levels of AMH increase the risk of developing the syndrome.
Polycystic ovary syndrome mouse model by prenatal exposure to high anti-Müllerian hormone / 2021	Standardizing an animal model for polycystic ovary syndrome. (PCOS) due to prenatal exposure to anti-Müllerian hormone (AMH)	Experimental preclinical study	AMH injection in pregnant mice with traces of PCOS. The protocol concludes as effective, as it successfully aligns with... diagnoses of human PCOS.
Elevated Anti-Müllerian Hormone is an Independent Risk Factor for Preterm Birth Among Patients With Overweight Polycystic Ovary Syndrome/ 2021	It was concluded that the combination of excess weight is an independent risk factor for preterm birth. Elevated AMH did not increase the risk of prematurity in patients of normal weight.	Medical scientific research	Women who are overweight and have very high AMH levels have a 2.1 times greater risk of premature birth. For women with a normal weight, the hormone levels did not change.
Effect of the presence of polycystic Ovary Syndrome-related features on Anti-Müllerian Hormone and Androstenedione levels in adolescents with or without menstrual irregularity/ 2021	To evaluate AMH and A4 levels in adolescents with or without menstrual irregularities and correlate them with... Symptoms of PCOS.	Clinical study	AMH and A4 levels are higher in patients with oligomenorrhea, and AMH increases progressively as the accumulation of clinical features of PCOS in adolescents intensifies.
Changes in circulating forms of anti-Mullerian hormone and androgens in women with and without PCOS: a systematic longitudinal	To compare blood levels of anti-Müllerian hormone (AMH) and androgens between pregnant women with and without...	Clinical study	The study monitored 30 women with PCOS and 29 controls quarterly. It concluded that pregnant women with PCOS maintain higher levels of PCOS.

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Title/year	Objective:	Methodology	Conclusion
study throughout pregnancy /2023	Polycystic Ovary Syndrome (PCOS), even before pregnancy. until the end of the pregnancy.		Elevated levels of AMH and androgens during gestation reinforce the hypothesis that this excessive intrauterine exposure may predispose daughters to developing SOP in the future.
Determining the age group-based cut-off values of serum anti-Mullerian hormone concentrations to diagnose polycystic ovary syndrome (2023).	Determine the specific serum anti-Müllerian hormone (AMH) cutoff values for the age ranges of 21–25, 26–30 and 31–35 years old in the diagnosis of Polycystic Ovary Syndrome (PCOS).	Clinical study	It was concluded that serum AMH shows a strong correlation with CFA at all ages and constitutes a valuable parameter for diagnosis.
Anti-Müllerian hormone serum: A potential biomarker for polycystic ovary syndrome (2023).	To evaluate the diagnostic accuracy, optimal cutoff value, and predictive power of serum AMH in women from northern India with PCOS.	Clinical study	AMH is the most promising biomarker for identifying women with PCOS, especially in phenotypes A and D.
Elevated antimüllerian hormone level is useful in making the diagnosis of polycystic ovarian morphology and likely one day the diagnosis of polycystic ovary syndrome (2024).	The usefulness of anti-Müllerian hormone (AMH) in the diagnosis of polycystic ovarian morphology and its future potential for the diagnosis of Polycystic Ovary Syndrome (PCOS).	Scientific study	The study concludes that elevated AMH is a reliable and practical diagnostic marker for polycystic ovarian morphology, and is expected to become an official criterion for the definitive diagnosis of the syndrome.
Blocking antibody against anti-Müllerian hormone restores ovulation and normal androgen levels in a spontaneous rat model of polycystic ovary syndrome (2025).	The efficacy of an AMH-blocking monoclonal antibody (Mab22A2) in reversing the reproductive and hormonal dysfunctions of PCOS.	Experimental study	The treatment reduced bioactive AMH, normalized androgens, restored ovulation in 84% of the animals, and resulted in... 66% of pregnancies, validating AMH blockade as a new and promising therapeutic approach for PCOS.
Anti-Mullerian Hormone, a Marker of Ovarian Reserve, Is Protective Against the Presence and Severity of NASH in Premenopausal Women (2024).	To determine if serum hormone levels Anti-Müllerian hormone (AMH) is associated with the presence and histological severity of non-alcoholic steatohepatitis (NASH) in	Scientific study	Higher levels of AMH are associated with Lower incidence and lower severity of non-alcoholic steatohepatitis (NASH) and fibrosis, indicating a protective role for this.

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Title/Year	Target:	Methodology	Conclusion
	women in pre-menopause.		Hormones in the progression of liver disease.
Anti-müllerian hormone as a diagnostic biomarker for polycystic ovarian syndrome and polycystic ovarian morphology: a systematic review and meta-analysis (2024).	This systematic review and meta-analysis, comprising 82 studies, evaluated the diagnostic accuracy of the AMH for Polycystic Ovary Syndrome (PCOS) and the Polycystic Ovarian Morphology (POM).	Scientific study	The AMH test has good sensitivity and specificity for detecting MOP in adults; however, due to the large variation in data, it is insufficient for diagnosing PCOS.
Association between anti-Müllerian hormone levels during pregnancy and pregnancy outcomes in infertile patients undergoing in vitro fertilization/ intracytoplasmic sperm injection: protocol for a multicenter prospective cohort study (2025).	To definitively establish whether elevated AMH levels during pregnancy are associated with adverse pregnancy outcomes in patients with PCOS undergoing fertility treatments.	Study protocol	Because this is a clinical protocol design, the results and final conclusions will be published and consolidated after the follow-up of this patient cohort is complete.
Prospective validation of anti-Müllerian hormone cutoff to determine polycystic ovarian morphology: HARMONIA study (2025).	To validate the cutoff value of 3.2 ng/mL of AMH for detecting polycystic ovary morphology in the diagnosis of PCOS.	Validation study	To validate the cutoff value of 3.2 ng/mL of AMH for detecting polycystic ovary morphology in the diagnosis of PCOS.
Preventing and correcting polycystic ovary syndrome by targeting anti-Müllerian hormone signaling in minipuberty and adulthood in mice (2025).	To assess whether excess AMH in childhood (mini-puberty) causes PCOS and whether blocking this hormone can prevent or reverse the disease.	Experimental study	Elevated AMH in childhood caused PCOS in adulthood. The antibody prevented the onset of symptoms when administered in childhood and reversed reproductive dysfunctions when administered to adult rats.

Recent literature highlights the importance of anti-Müllerian hormone (AMH) in Understanding polycystic ovary syndrome (PCOS), encompassing aspects such as pathophysiology, diagnosis, and possible treatment options. In general, the reviewed studies shows that variations in AMH levels are strongly associated with characteristics reproductive and metabolic aspects of the syndrome, although there is controversy regarding the behavior of this marker in specific groups.

In the clinical work of AL-JAWADI and ALABBASI (2025), a relationship was observed. There is a significant relationship between AMH levels and various hormonal parameters associated with PCOS. Researchers have noted a positive correlation between AMH, estradiol, and luteinizing hormone.

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(LH), while progesterone, follicle-stimulating hormone (FSH), the mass index
Body mass index (BMI) and age showed an inverse correlation. The results suggested that levels
Lower AMH levels are associated with a higher risk of PCOS, especially in women.
older and heavier individuals led the authors to recommend the use of AMH as a marker.
for early detection and monitoring of the disease.

On the other hand, studies that focused on AMH as a diagnostic tool
They showed reliable results regarding their ability to be a biomarker of morphology.
polycystic ovary syndrome. In the prospective HARMONIA study, conducted by PILTONEN et al.
(2025), it was observed that women with polycystic ovarian morphology presented levels
significantly higher serum AMH levels than controls. These findings reinforce
recent recommendations suggesting the use of AMH as an alternative to ultrasound in
SOP assessment, especially in situations where imaging is difficult or poorly managed.
well received.

In addition to its diagnostic function, experimental investigations suggest that AMH
may play an active role in the pathophysiology of the syndrome. COTELLESSA et al. (2025)
They showed that when mice were exposed to high levels of AMH during the
During minipuberty, reproductive and metabolic changes similar to those observed in
Women with PCOS, such as ovulatory irregularities, hyperandrogenism, infertility, weight gain.
weight gain, insulin resistance, and glucose intolerance. The authors found that blocking the
AMHR2 receptor signaling could prevent or attenuate these changes, offering evidence.
robust evidence suggests that excess AMH is more than just a marker of disease and also
may be involved in its formation and maintenance.

Similar results were observed by RACINE et al. (2025), who used a
spontaneous PCOS model in rats. They showed that neutralizing AMH reduced the
Levels of circulating androgens were reduced, restoring ovulation in many of the treated animals and
allowed pregnancies to occur. These findings reinforce the idea that AMH plays a role.
a direct role in reproductive dysfunction associated with PCOS and suggest that targeted therapies
AMH may be a promising alternative for the treatment of the syndrome.

The studies by COTELLESSA et al. (2025) and RACINE et al. (2025) converge on
to show that adjusting AMH activity has significant impacts on characteristics
reproductive and metabolic changes related to PCOS. The first study shows that excess
The hormone can induce a syndrome-like phenotype, while the second shows that
Blocking this production can reverse important manifestations of the disease. Therefore, both

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They provide evidence of a causal relationship between AMH and PCOS.

Based on the available evidence, there is consensus regarding the importance of AMH as biomarker associated with PCOS, both for the identification of polycystic ovarian morphology as well as for understanding the pathophysiological mechanisms of the syndrome. However, the discrepancy between the results of AL-JAWADI and ALABBASI (2025), who found levels Reduced AMH levels in women with PCOS contrast with the findings of PILTONEN et al. (2025) and with the experimental literature, which generally points to high concentrations of The hormone levels in affected individuals may differ. This difference can be attributed to methodological variations. population characteristics or participant selection criteria, which highlights the Further studies are needed to standardize the clinical use of this marker.

In research conducted by HALDER et al. (2023), women with PCOS presented median AMH concentrations were much higher than those of the control group. AMH also It demonstrated excellent diagnostic performance, with an area under the curve (AUC) of 0.93 for the total. of patients and 0.96 for phenotype A, being considered the best marker in a model multivariate analysis developed by the authors. Similar results were observed by TIMUR et al. (2023), who recorded significantly higher AMH levels in all age groups analyzed. They also showed a strong correlation between AMH and antral follicle count (AFC), reinforcing the link between this hormone and morphology Typical ovarian dysfunction in PCOS. One of the main findings of the study was the need for values of Specific cuts for different age groups, which indicates that age is an important factor. in the clinical interpretation of AMH levels.

Although individual studies show that AMH has a high capacity In terms of discrimination, the meta-analysis by VAN DER HAM et al. (2024) reveals that the use of AMH as A single diagnostic test for PCOS still has limitations. An analysis of 82 studies showed Sensitivity of 79% and specificity of 87% in the diagnosis of PCOS in adult women. Although these numbers are considered satisfactory, the authors concluded that the AMH, In isolation, it is not accurate enough to diagnose such a heterogeneous condition and multifactorial, such as PCOS.

SEIFER (2024) also reinforces this idea by observing that high levels of AMH are associated with the severity of PCOS phenotypes and the presence of ovarian morphology polycystic. He argues that AMH is already clinically relevant enough to replace the Ultrasound in the identification of polycystic ovarian morphology in adult women. in accordance with the 2023 international guidelines. However, he acknowledges that factors such as

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Obesity, use of hormonal contraceptives, and differences between laboratory tests still exist.
These limitations make it difficult to adopt AMH as a standalone diagnostic marker. Despite these limitations,
SEIFER suggests that future updates to the guidelines include AMH directly in the criteria.
PCOS diagnoses.

Therefore, there appears to be a divergence between individual clinical studies and the...
evidence from systematic reviews. HALDER et al. (2023) and TIMUR et al. (2023) support the
The high diagnostic capacity of AMH suggests its use as a complementary tool or
substitute in some situations, while VAN DER HAM et al. (2024) highlight that the
Variability between populations and analytical methods still hinders global standardization.
The difference is probably due to the fact that single-center studies analyze larger populations.
homogeneous studies, while meta-analyses include different ethnicities, clinical phenotypes, and methodologies.
laboratory tests increase the heterogeneity of the results.

Another important point is that studies agree on the association between AMH.
and polycystic ovarian morphology. Both VAN DER HAM et al. (2024) and SEIFER (2024)
They emphasize that the main clinical value of AMH, currently, lies in the identification of PCOM.
This could replace ultrasound in adult women. This represents progress.
significant, especially in locations where access to ultrasound equipment is limited.
limited.

In the longitudinal study by PEIGNÉ et al. (2023), women with PCOS presented
Significantly higher concentrations of total AMH and cleaved AMH in the pre-
In addition, there is a risk of conception and in the third trimester of pregnancy, compared to women without PCOS.
In addition, higher levels of testosterone and androstenedione were observed, especially in
starting from the middle of gestation. These results indicate that the intrauterine environment of pregnant women
PCOS is characterized by exposure to high levels of AMH and androgens, which, according to
According to the authors, this can contribute to fetal programming related to future development.
syndrome in female offspring.

Similar results were observed in adolescents. HANEDAN et al. (2022)
They showed that adolescents with oligomenorrhea had high levels of AMH and
androstenedione levels are significantly higher than those of adolescents with menstrual cycles.
regular participants. In addition, the highest concentrations of AMH were observed among participants.
who simultaneously presented with oligomenorrhea, hirsutism, and ovarian morphology
polycystic. The authors noted that the increase in AMH was accompanied by a combination of factors.
extensive range of phenotypic characteristics of PCOS, suggesting that this hormone may reflect the

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severity of the clinical manifestations of the syndrome, even in adolescence.

The association between high levels of AMH and obstetric complications was also observed by DU et al. (2021). In a large cohort of women with PCOS undergoing In vitro fertilization, researchers found that elevated levels of AMH (>6.45 ng/mL) were an independent risk factor for preterm birth in overweight or obesity (BMI ÿ24 kg/m²). However, this association was not observed in women with BMI less than 24 kg/m², suggesting a possible interaction between excess AMH and alterations. metabolic disorders associated with excess weight, which increases the risk of pregnancy complications. in women with PCOS.

Although clinical studies show significant relationships between high levels of AMH and characteristics of PCOS, the protocol described by MIMOUNI and GIACOBINI (2021) provides mechanistic support for these observations. The authors developed an experimental model. in which prenatal exposure to high levels of AMH causes female offspring to exhibit certain characteristics. Reproductive and metabolic changes similar to those of human PCOS. According to them, this model It reproduces diagnostic criteria equivalent to those of Rotterdam and presents alterations. typical metabolic patterns of the syndrome, reinforcing the hypothesis that intrauterine exposure to AMH This may be related to the origin and maintenance of PCOS.

In general, studies indicate that AMH is one of the most promising biomarkers. for PCOS, showing a strong association with the classic phenotypes of the syndrome and clear The relationship with polycystic ovarian morphology is still unknown. However, current evidence does not yet support this. They support the use of AMH as an isolated diagnostic criterion, and it is more appropriate to consider- It is a complementary marker in the clinical and ultrasound evaluation of patients. In short, Research indicates that the AMH goes beyond its known role as a reserve marker. ovarian function, positioning itself as a relevant component in the pathophysiology of PCOS and as a potential therapeutic target. Advances in research in this area may help to develop more precise diagnostic strategies and interventions that address the mechanisms biological factors underlying the syndrome.

FINAL CONSIDERATIONS

The body of evidence analyzed indicates that the anti-Müllerian hormone (AMH) plays an important role in the pathophysiology and diagnostic evaluation of the syndrome of Polycystic ovaries (PCOS). Most studies have identified elevated levels of AMH in

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Blood samples from women with the syndrome. This is strongly associated with ovarian morphology. polycystic, to the severity of clinical phenotypes and to the reproductive and metabolic alterations that accompany the disease. Furthermore, experimental studies indicate that AMH may participate. actively involved in the origin and maintenance of PCOS, acting not only as a biomarker, but also as a therapeutic target.

Despite the promising results, limitations still exist. These include... Variability exists among the populations studied, laboratory methodologies, and clinical factors. factors that affect hormone concentrations include age, obesity, and the use of contraceptives. hormonal. Therefore, although AMH has high clinical utility and is recognized as an alternative to identifying polycystic ovarian morphology in some situations, the Current evidence does not support its use in isolation as a diagnostic criterion for PCOS.

Thus, we can conclude that AMH is an important complementary marker in Diagnosis and monitoring of polycystic ovary syndrome. It helps to carry out a more accurate assessment when combined with clinical, laboratory and other criteria already recognized images. In addition, their role in the pathophysiological mechanisms of The disease opens up new opportunities for the development of therapeutic approaches. However, Further studies are needed to standardize dosage methods and establish values for specific references for different groups and consolidate the inclusion of these methods in future [references/measures]. Diagnostic guidelines for PCOS.

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