

# ULTRASOUND MONITORING OF GESTOSIS POLYCENTRIC STUDY

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## SUMMARY

In polycentric research we studied 62 selected cases of gestosis to evaluate which symptom is greatly correlated with the deficit of fetal growth.

According to us, the earlier the syndrome appearance the clearer the deficit of fetal growth.

## INTRODUCTION

We carried out a polycentric research with collaboration of obstetricians from Siena, Chieti, Cagliari and radiologists from Padua.

The object of our work was to monitor the course of the fetal biparietal diameter during pregnancies complicated by E.P.H. Gestosis and we are giving a report of an experience of 62 selected cases of gestosis observed in the period from January to September 1978.

## MATERIAL AND METHODS

For carrying out the monitoring, we have used apparatuses with real time (Axicon 5, Axiscan 5 A, Aloka Echo Camera) in every centre except in the Obstetric Clinic of Siena where the Scanning Contact Compound technique has been used (Combison 200); the ultrasound velocity has also been standardized to 1580 m/sec to obtain omogenous measurements.

We studied patients comprised between the 18th and 40th week of pregnancy and they were first observed even at the mere suspicion of gestosis in which the last period of menstruation was certain not yet under medical treatment.

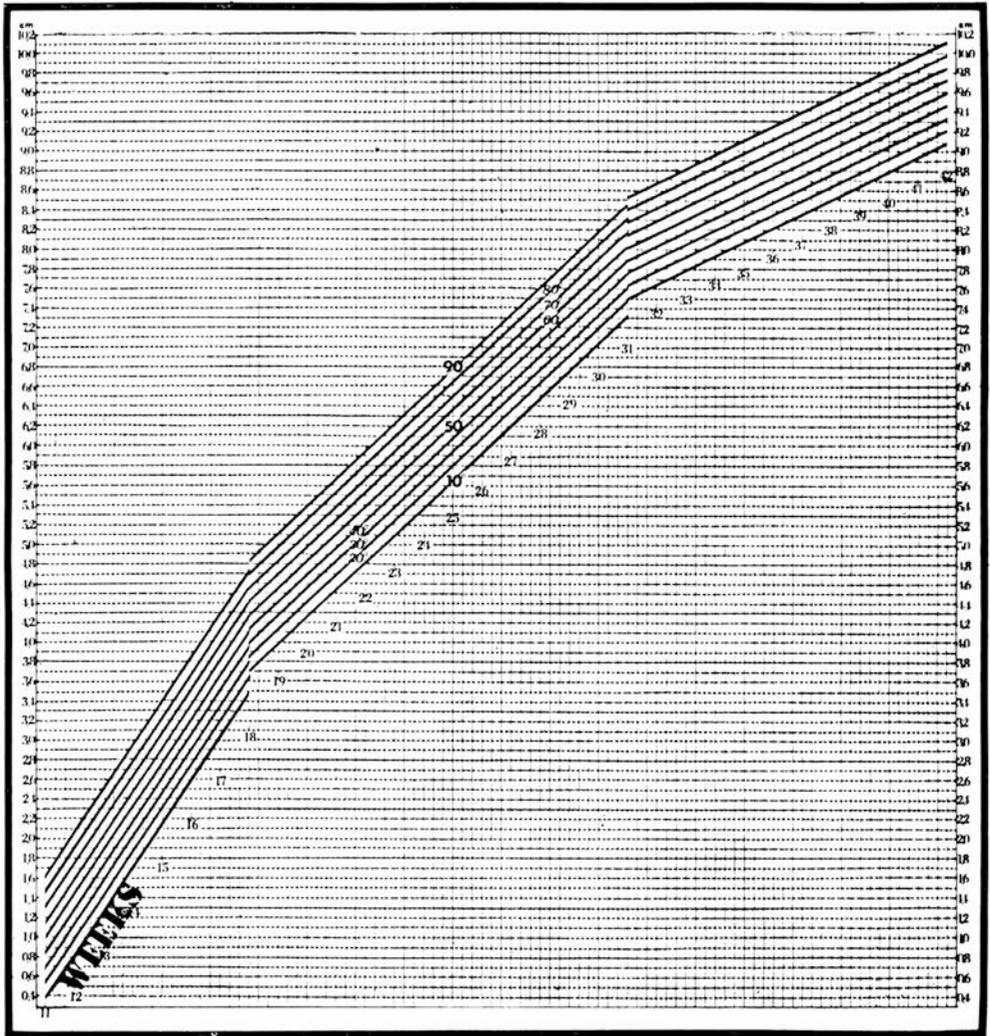
The parameter used to frame every single patient is that proposed by « Gestosis Organization - AARAU ».

In the champion use, the BPD was measured from the minimum of twice to the maximum of 12 times during the same pregnancy with a minimum interval of a week and a successive measurement immediately after delivery.

The growth curve elaborated by Nardelli - Resta (1976 and successively rated) has been used as a control champion which is in use in the above mentioned centres (tab. 1) (1, 2).

## RESULTS

The values of BPD comprised in the range between the 25<sup>th</sup> and the 75<sup>th</sup> percentiles has demonstrated a significant disposition: from the first period that goes from the 18<sup>th</sup> to the 29<sup>th</sup> week of pregnancy the values have a uniform arrangement towards the 25<sup>th</sup> percentiles while in the second period (30<sup>th</sup>-40<sup>th</sup> week), the disposition is very variable, the line of interpolation being in the centre of the normal band.



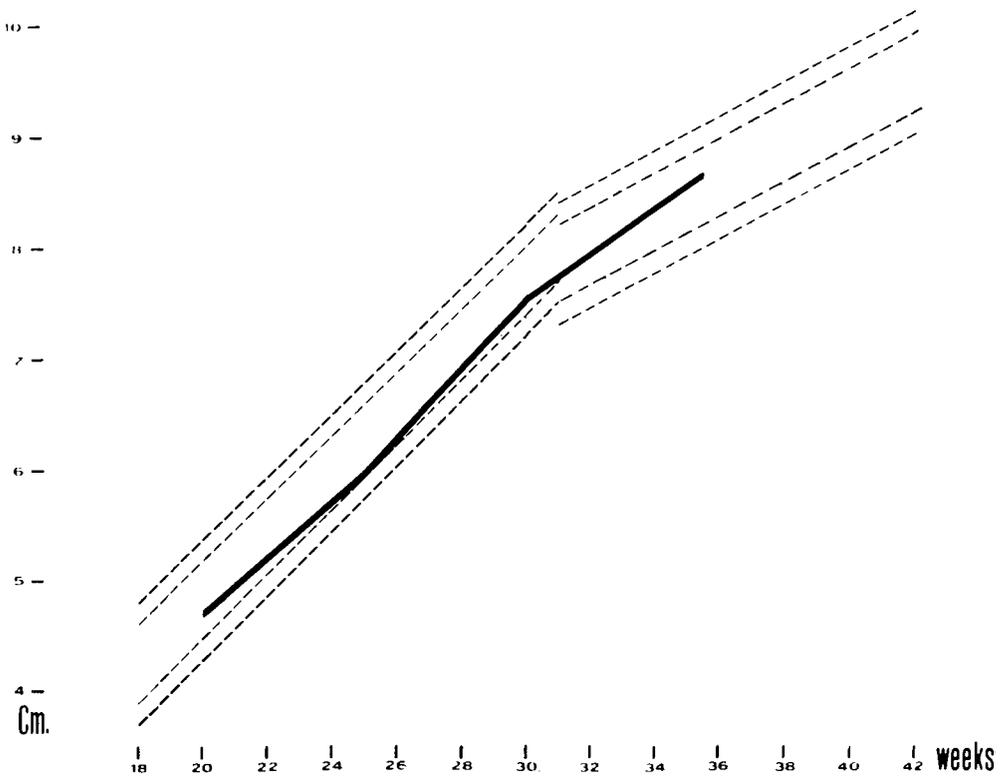
Tab. 1. — Percentilized curve used in this review and normally in use in the centers of Siena, Cagliari, Chieti and Padua.

In table 3 we have represented the increase and the decrease, in mm, in respect to the 50<sup>th</sup> percentiles of BPD in function of the single symptoms of gestosis and their relative associations; this is to evaluate which symptom is greatly correlated with the deficit of fetal growth.

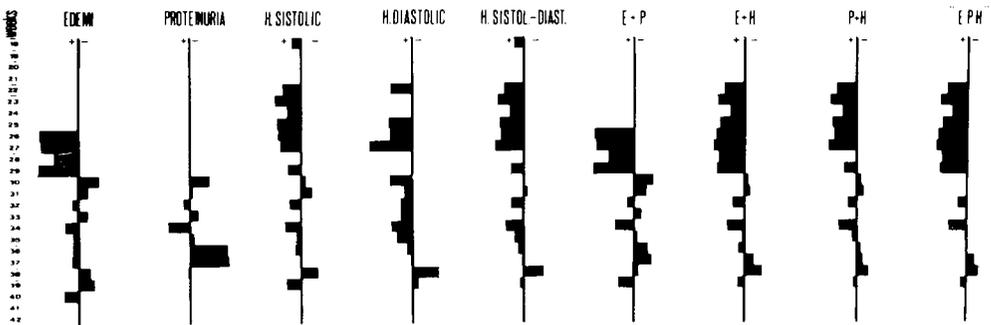
With regard to the statistical study, the edema and the systolic hypertension

act negatively especially during the first period (18th-29th week); while the diastolic hypertension in both periods (18th-29th and 30th-40th week); instead, the presence of proteinuria would seem not determinant for the growth deficit.

The association of the symptoms (E+P; E+H; P+H) clearly demonstrates



Tab. 2. — Representation of the behaviour in the presented cases, inclusive from 25<sup>th</sup> to 75<sup>th</sup> percentiles.



Tab. 3. — Increment (+) and decrement (-) of single symptom in gestosis and relative associations with gestational age.

how they act especially in the first period in determining the growth deficit in the BPD.

#### CONCLUSIONS

As presented above, the role of gestosis becomes clear in determining the fetal underdevelopment. The problem, according to us, doesn't consist in the research of a reliable method for the monitoring of the progress of pregnancy in gestosis, but in a routine application of a simple and harmless method able to reveal the fetal growth deficit since the first phases in pregnancies considered normal.

During the first and the second trimester, the ultrasounds in the hands of

experts, give reliable informations thanks still to high rapidity of the fetal growth, a velocity which once more compensates the individual variability.

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