



Uterine Height and Umbilical Perimeter Curves in Twin Pregnancies

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From previous research, which gave standard curves for the evolution of uterine height and umbilical perimeter according to gestational age in the case of single pregnancies, the authors propose curves which show the variations of these two parameters in twin pregnancies.

The observed differences are sufficient to allow a diagnosis of twin pregnancy as soon as the 18th week of amenorrhea.

This observation is interesting because, until now, a systematic early B-scan examination has not been performed as a rule.

Key words: Early diagnosis, Uterine height, Umbilical perimeter

INTRODUCTION

The importance of early diagnosis of a twin or multifetal pregnancy is no longer questioned. Echotomography clearly is the superlative method for this, since, as early as the fifth or sixth week, it offers a degree of certainty through the visualization of the embryonic cardiac activities. France, as well as other countries that have more recently adopted this technology, has not yet advanced so far as to use this technology routinely, and clinical signs still prevail as a basis for diagnosis.

BACKGROUND OF THE STUDY

Ascertaining an excess of uterine volume early in pregnancy raises a suspicion of multiple gestation which will be confirmed at the time of the third trimester of pregnancy, when inspection, palpation, and auscultation will supply complementary evidence. It is possible for a skilled obstetrician to know at once the normal or abnormal nature of the uterine volume. It is also important for other specialists as well as general practitioners and midwives to be able to make a reliable diagnosis of multiple gestation.

Reference norms in the form of centile curves for uterine height and umbilical perimeter have already been established (ca 1972) from extensive data[1]. Their use in current practice enables the obstetrician to build a personal diagram for each woman, based on data found at each medical visit. These growth curves ought normally to remain in the

gray zones. Any deviation, above or under, should suggest supplementary examinations, selected in order to complete the diagnosis.

The development of a twin pregnancy induces a change in the plotting. Figure 1 gives such an example.

MATERIALS AND METHODS

In observing 97 twin pregnancies, we obtained 490 measures of uterine heights and 442 measures of umbilical perimeters. These data resulted in the curves of the 10th, 50th, and 90th centiles, corresponding to twin pregnancies (Table 1, Fig. 2).

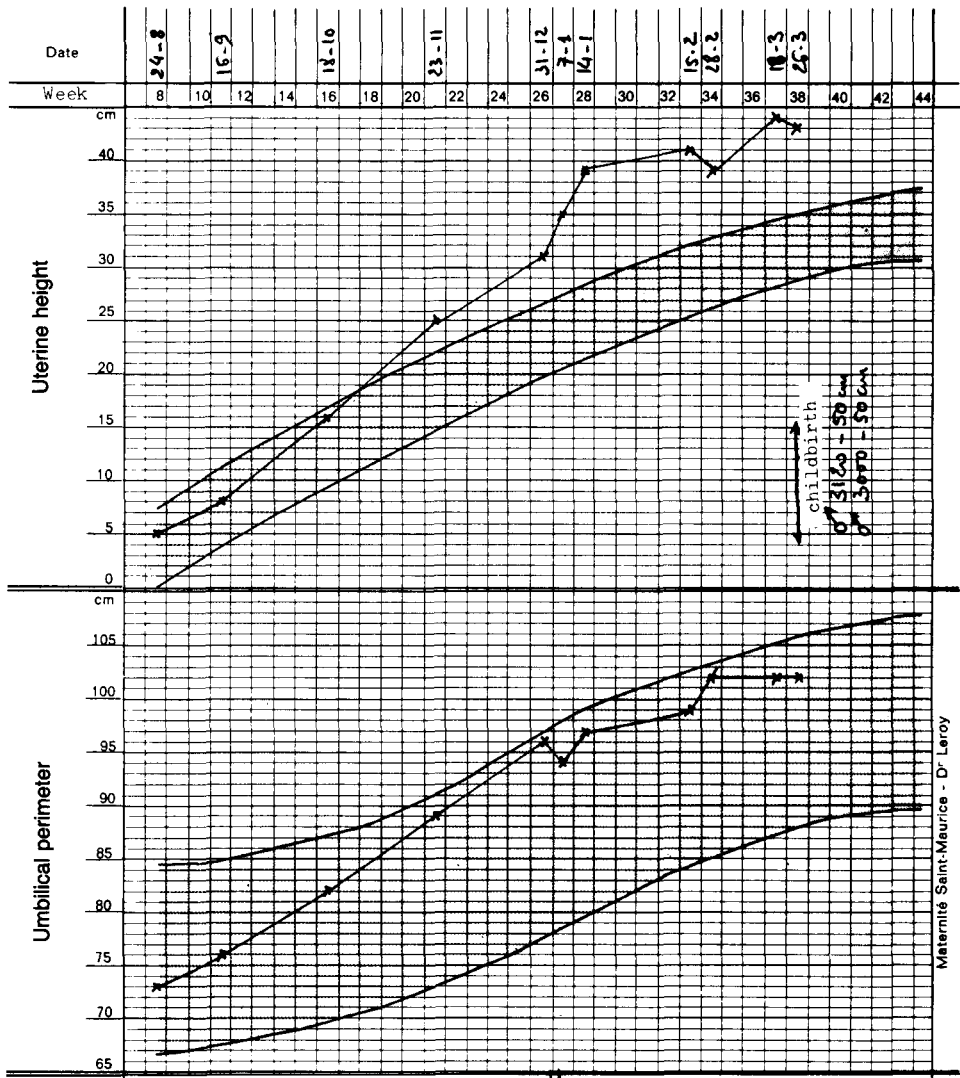


Fig. 1. Monitoring of uterine height and umbilical perimeter in a case of twin pregnancy.

TABLE 1. Values of the 10th, 50th and 90th Centiles of Uterine Height and of Umbilical Perimeter in Case of Twin Pregnancy

Week	Uterine height			Umbilical perimeter		
	10 centile	50 centile	90 centile	10 centile	50 centile	90 centile
9		6			75	
10		7			75	
11		8			76	
12		9			77	
13		11			78	
14		12			79	
15		14			81	
16		16			82	
17		17			83	
18		19			85	
19		20			86	
20	20	21	25	79	87	95
21	21	23	26	81	88	96
22	22	24	27	82	90	97
23	23	25	28	84	91	98
24	24	26	29	85	92	99
25	25	27	31	86	94	100
26	26	28	32	87	95	101
27	27	29	32	89	96	102
28	28	30	33	90	97	104
29	29	31	34	91	98	105
30	30	32	35	92	99	105
31	31	33	36	93	100	106
32	32	34	37	94	100	107
33	33	35	38	95	101	108
34	34	36	39	95	102	109
35	34	36	40	96	103	110
36	35	37	40	97	103	111
37	35	38	41	97	104	111
38	36	39	41	98	104	112
39	37	39	42	99	105	113
40	37	40	43	99	105	113

RESULTS

As early as the 18th week of amenorrhea, the curve of the 50th centile goes out of the normal gray zone. The curve of the 10th centile follows; there are no superpositions between the two zones.

With regard to the evolution of the umbilical perimeter, the difference is not so clear. The 50th centile for twin pregnancies remains inside the limits which are considered normal for single pregnancies.

COMMENTS

While the development of a large single fetus influences uterine volume, based on our observations, the umbilical perimeter often increases more than the uterine height. In the case of polyhydramnios, both parameters are involved.

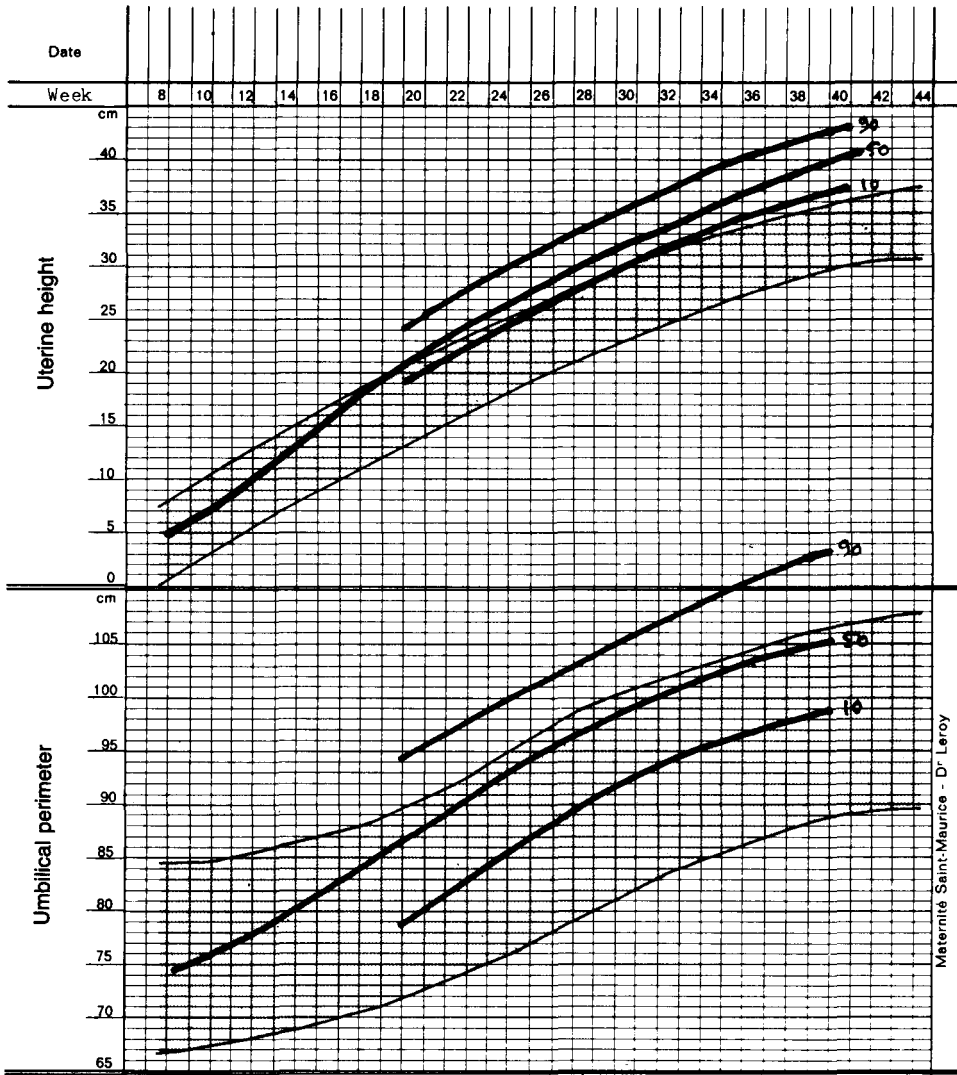


Fig. 2. Evolution of uterine height and umbilical perimeter in a case of twin pregnancy.

CONCLUSIONS

The construction of individual diagrams of uterine height and umbilical perimeter growth permits an early detection of anomalous uterine growth. This is possible as early as the 18th week in the case of a twin pregnancy.

REFERENCES

1. Leroy B, Lefort F, Kamkar H (1973): Hauteur utérine et périmètre ombilical. Indice de développement utérin Rev Franc Gynec 68, 2, 83-91.