

Occasional Review

Diagnosis of multiple pregnancy

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Summary and conclusions

A study was made of 94 sets of twins born during 1975-8. Nine of these sets had not been diagnosed before labour started. Of the others, 75 were diagnosed as a result of clinical suspicion and 10 were diagnosed unexpectedly during the antenatal period, nine by ultrasonic examination. Thus, while ultrasonic examination has substantially reduced the incidence of undiagnosed twins, a fifth of all patients who had ultrasonography performed in the presence of a twin pregnancy were reported on at least one occasion to have a singleton pregnancy. Ultrasonography must be performed at least twice, therefore, before a multiple pregnancy can be confidently excluded.

Introduction

The increased perinatal death rate associated with a twin pregnancy has long been emphasised,^{1,2} as have the additional hazards to the second twin.^{3,4} Despite this, in some series up to 29% of all twins have not been diagnosed until the second stage of labour.¹ Little has been reported on this subject since 1964,⁵ and no published reports state the percentage of twins diagnosed at various stages of the antenatal period.

The first multiple pregnancy diagnosed by ultrasonic examination was reported in 1967.⁶ The present investigation was undertaken to assess our diagnostic acumen in the presence of a multiple pregnancy in a hospital where diagnostic ultrasound is in regular, but not routine, use.

Materials and methods

A retrospective study was undertaken from case notes. During the four-year period 1975-8, 10 818 patients were booked for delivery at the Jessop Hospital and, of these, 94 delivered twins; this gave an incidence of one set of twins in 115 pregnancies. During the same period, but excluded, were three sets of twins delivered to patients who were booked elsewhere, two sets of triplets, and a fetus papyraceus. Six of the 94 patients conceived in a cycle during which they took clomiphene.

Results

Of the 94 sets of twins, 85 (90%) were diagnosed before the onset of labour. Only 75 (80.1%) were suspected clinically, the other 10

being diagnosed unexpectedly after ultrasonography in nine cases and abdominal x-ray examination in one. The initial clinical suspicion of multiple pregnancy arose from finding a uterus "large for dates" in 66 patients, polyhydramnios in five, and multiple fetal parts on palpation in four. The indications for the ultrasonic examinations in the nine patients in whom a multiple pregnancy was not suspected were: uncertain dates (three patients), to assess fetal growth rate (three patients), mid-trimester amniocentesis (two patients), and antepartum haemorrhage (one patient). The abdominal x-ray examination was performed as fetal abnormality was suspected.

The period of gestation at which twins were initially suspected and later diagnosed is shown in table I. The mean time between first suspecting a twin pregnancy and later confirming the diagnosis was 1.6 weeks, with 44% being diagnosed on the same day but 7.1% being diagnosed more than four weeks later.

TABLE I—Period of gestation at which twins were initially suspected and later diagnosed. (Percentages in parentheses)

Completed weeks of pregnancy	Diagnosis suspected	Diagnosis confirmed
<20	25 (33.3)	26 (30.6)
21-28	21 (28.0)	26 (30.6)
29-32	17 (22.7)	16 (18.8)
33-36	10 (13.3)	13 (15.3)
>36	2 (2.7)	4 (4.7)
Total	75 (100)	85 (100)

Of the 85 patients diagnosed before the onset of labour, 80 were diagnosed by ultrasonography (range 14-37 weeks) and five by abdominal x-ray examination (range 35-38 weeks). Fourteen of the 80 patients (18%), however, had had at least one previous ultrasonic examination in which only a single fetus had been noted, one patient having five such examinations before the diagnosis was made on the sixth.

The periods of gestation at which incorrect ultrasonic examinations were performed are shown in table II. In addition to these 14 cases, one patient whose twin pregnancy was diagnosed by x-ray examination also had an ultrasonic examination at 32 weeks at which a single fetus was reported, and two of the nine patients with an undiagnosed

TABLE II—Periods of gestation at which incorrect ultrasonic examinations were performed

Case No	Completed weeks of pregnancy when singleton diagnosed	Completed weeks of pregnancy when twins diagnosed
1	12	19
2	16	20
3	16	26
4	16	28
5	16	28
6	16	31
7	17	20
8	18	28
9	22	27
10	23	27
11	23	29
12	29	32
13	7, 8, 13	17
14	26, 26, 27, 28, 29	29

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twin pregnancy had previously had single fetuses found by ultrasound at 39 weeks and at both 16 and 37 weeks. Therefore, of the 94 patients who delivered twins, 83 had had at least one ultrasonic examination and, of these, 17 had been diagnosed as having a single fetus on at least one occasion, a false-negative incidence of almost 21%.

Nine patients, however, were diagnosed as having a twin pregnancy when ultrasonic examination was performed (range 18-36 weeks) without this having been suspected clinically.

Discussion

A series of 94 consecutive twin deliveries is presented in which almost 31% and 94.6% were delivered by the end of the 36th and 39th weeks of pregnancy respectively. Nine sets of twins (10%) were undiagnosed before the second stage of labour, five being diagnosed only after ergometrine maleate (Syntometrine) had been given intramuscularly. This compares favourably with previously reported incidences of 29%,¹ 18%,⁷ 20%,⁸ and 12%,⁹ although Robertson⁵ reported a remarkable series in which only 8% were undiagnosed before labour, and he did not have the benefit of ultrasound. The importance of the early diagnosis of a multiple pregnancy has been emphasised, especially so that measures can be taken to reduce the incidence of preterm labour and so that the second twin can be spared the hazard of being delivered as an emergency in an unprepared labour ward.^{2 8 9}

Although ultrasonic examinations of the uterus confirmed the diagnosis of twins in 80 of our cases, a second ultrasonic examination should be performed if a multiple pregnancy is suspected clinically but the ultrasonogram shows only a singleton. Probably our apparently high incidence of false-negative examinations would have been reduced had all the scans been performed by a single operator, preferably trained both obstetrically and

radiologically. The practical considerations of this point are likely to become more important if screening with serum α -fetoprotein estimations (which are raised in the presence of a multiple pregnancy) becomes more widespread, or unnecessary amniocentesis may be performed. As an ultrasonic examination may diagnose a multiple pregnancy when this is not clinically suspected (10% of our cases) an argument may be advanced for performing two ultrasonic examinations in all pregnancies, perhaps at the 16th and 30th weeks, although this may not be feasible in many centres. Diagnostic ultrasound would seem to have decreased the incidence of twins remaining undiagnosed before the onset of labour, but two ultrasonic examinations may be necessary to confirm the clinical suspicion.

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Introduction to Marital Pathology

Choice of partner

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Common sense suggests that marital conflict and breakdown are more likely in couples with little affinity for each other. The process of selection, courtship, and engagement makes it likely that a couple will share roughly similar attitudes, values, and opinions, and that they will sustain their common interests and avoid excessive conflict. The theory of like marrying like, homogamy, is well established, and evidence exists that if social barriers are crossed marital conflict increases.

Physical factors

Measurements for similarity of physical attributes between spouses began at the turn of the century; they showed a positive but low correlation for stature, maximum span of the arms, and length of the left forearm.¹ Since then the whole body has been subjected to detailed measurements and a low positive correlation has been found repeatedly for stature, maximum span of arms, length of left forearm, head length, and colour of skin and hair.²⁻⁴ The similarity of colour of skin is a reminder that race is a major factor determining selection of partner. In 1970 fewer than 10% of all marriages in the United States were inter-racial.⁵

Do spouses choose one another on the basis of a similarity to the opposite parent? Few studies of this exist, but one study established among 373 engaged couples or recently married persons a resemblance between the couple and parents, which was more than could be expected by chance.⁶ The similarity in physical appearance was considerable, but more important was the similarity of opinions, personality, and temperament. But the influential parent was not necessarily that of the opposite sex. An important factor was the presence of strong affective ties between child and either parent.

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