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The flying squad—an expensive and potentially dangerous practice in modern obstetrics

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In modern obstetrics there has been a marked decline in the use of the flying squad due to changes in the provision of obstetric care which includes a decline in the home delivery rate ($\leq 4\%$), a realization of the hazards associated with instrumental delivery and administration of general anaesthesia at home, and a lack of experience in domiciliary obstetrics by medical staff. We have reviewed the practice of the flying squad in the West Lambeth area of London covered by St. Thomas' Hospital over the past 10 years (1981-1990), and found that the flying squad is an expensive service that may actually result in a delay in effective treatment. We recommend that the service should be discon-

tinued in urban areas in favour of the ordinary ambulance service.

All the flying squad calls from St. Thomas' Hospital serving the West Lambeth health district of London were scrutinized between 1981 and 1990, a 10-year period.

Calls were assessed to see if the request for the flying squad actually delayed effective treatment, so as to endanger the life of mother or baby. We found that none of the 70 occasions on which the flying squad was called involved a clinical problem that needed urgent treatment by the medical team in the home (Table 1).

Case reports

Case 1

A woman at 34 weeks gestation had lost a considerable amount of blood following an accidental haemorrhage. The flying squad found her shocked with a systolic blood pressure of 50-60 mm Hg. She was resuscitated with an O negative blood transfusion after a delay of 25 min, when she could have been in hospital within 10 min had an ordinary ambulance been used. Had there been further delay in arrival of the flying squad this patient might not have survived.

Table 1. Analysis by indication for calls and retrospective assessment of validity

Indication	No. of calls (<i>n</i> = 70) <i>n</i> (%)	Assessment of call		
		Necessary	Delayed treatment	Endangered life
Miscarriage	24 (35)	0	2	0
Antepartum haemorrhage	16 (23)	0	6	2
Retained placenta	14 (20)	0	4	1
Post-partum haemorrhage	5 (7)	0	0	0
Preterm delivery	4 (6)	0	2	1
Imminent delivery	4 (6)	0	1	0
Obstructed labour	1 (1)	0	1	0
Cord prolapse	1 (1)	0	0	1
Fetal distress	1 (1)	0	0	0

Case 2

A fresh stillborn baby was born following an accidental haemorrhage immediately after the mother reached hospital by flying squad. The call had taken over 35 min. Had there been no flying squad she would have reached hospital within 6 min, the time the ambulance took between home and hospital. Earlier intervention might have saved this baby.

Case 3

Manual removal of placenta was attempted at the house without anaesthesia in a woman with minimal bleeding in a stable haemodynamic condition. This resulted in considerable blood loss and shock. The manual removal had to be repeated on arrival in hospital as the placenta had been only partially removed at the first attempt. This was attributed to the fact that only an inexperienced junior obstetrician could be released from the hospital at the time.

Case 4

The birth of an immature baby at 33 weeks gestation was supervised by the ambulance crew at home. When the flying squad arrived, 30 min after receiving the call, the baby's heart beat was 40/min. The baby died in spite of attempts at resuscitation. The baby could have been in hospital within 10 min, the time taken by the ambulance to reach hospital from home, and could possibly have been saved.

Case 5

A baby with a breech presentation was found

dead hanging from the vagina with the head retained, when the flying squad reached the patient's home, 46 min after receiving the call. The distance from home to hospital was covered in 5 min.

Case 6

The baby was found dead because of cord prolapse when the flying squad reached the woman's home after 28 min. The distance from home to hospital was covered in 10 min.

Comments

In our 10-year review between 1981–1990 we found that the flying squad call out rate was 2/1000 deliveries which is consistent with the practice at Liverpool (Ryan & Kidd 1987) and South Glamorgan (B. M. Hibbard 1989, personal communication). The call was initiated by the ambulance crew on 61 occasions (87%) and by the district midwife, general practitioner, patient's friends or relatives on 9 occasions (13%). Approximately 85% of calls were related to bleeding. This is very similar to the 78.5% in the survey conducted by the Royal College of Midwives (R. Jenkins 1989, personal communication). None of the women in our survey had eclampsia or impending eclampsia. This contrasts with the findings of the Royal College of Midwives that 5% of calls involved impending eclampsia. In our review only one woman needed resuscitation with a transfusion of uncrossed matched O Rhesus negative blood during transfer to hospital. Two of the women were haemodynamically stable in spite of an excessive amount of blood loss, up to 1000 ml.

All the other women had minimal to average bleeding. Effective antenatal care and improved socioeconomic conditions have made severe anaemia rare, and most young healthy women compensate effectively for moderate decreases in blood volume caused by bleeding.

In general, as the underlying problem could not be treated adequately at home, the condition of the woman continued to deteriorate whilst the flying squad was being assembled, driven to the home and then back to the hospital. In most of the calls either the problem was too trivial to require help or so severe that it was best treated by immediate transfer to hospital for specialist help.

In this review we found that the average time taken by the flying squad to reach the woman's home after receiving a call was 28 min and in 12 (8%) it took 40 min or more. During this time the woman received no treatment. The delay was due to the need to assemble staff and problems with the address of the woman's home. The average time taken from home to hospital was 10 min. In 21% it was only 5 min. This means that the woman could have been treated effectively much sooner if she had simply been collected by an ordinary ambulance in the first instance. In no instance do we feel that this would have increased the risk to the patient.

In other circumstances ambulance crews transfer severely bleeding and shocked medical and surgical patients to hospital quite adequately. However, we do feel that ambulance crews dealing with acute emergencies should have paramedical training that includes obstetrical and gynaecological 'first aid'.

On retrospective analysis of the validity of the calls we found that none was essential, 23% of the women would have done better had they been brought straight in by ambulance rather than waiting for the flying squad and for 7% the call proved more dangerous than a direct transfer.

The flying squad was incomplete on 25 occasions. The anaesthetist was omitted on 20 (30%) occasions and the obstetrics registrar was replaced by a senior house officer on five occasions.

The anaesthetist was not included when the initial assessment by telephone made it clear that he would not be required. No anaesthetics were given at home and it was never necessary to establish an air way by intubation. We do not feel that there is any need for an anaesthetist to be included in the team. Moreover, with a lim-

ited number of duty doctors it would be inappropriate to deplete the hospital of an obstetrics anaesthetist for the flying squad.

An experienced obstetrician is the most important member of the team. In our review 7% of calls were attended by a senior house officer who was doing his first obstetric post. This happened because the duty registrar was involved with an acute emergency in the hospital. Present day hospital staffing does not provide for the ready availability at all times of a team with appropriate skills and experience.

The original aim was to transfer to hospital only those who needed further treatment. In the period of our review all but one woman were transferred to hospital, even though there was often no residual problem. Most obstetricians feel safer continuing supervision over 24 h in hospital after the drama of a flying squad call.

Our study showed that 71% of calls were before 09:00 or after 17:00 hours, this meant that most of the calls occurred when there were only 'on-call' staff in the hospital. Removing skilled and experienced staff increases the risks for those already under their care in the hospital. The average time a skilled doctor was away from hospital attending a call was 63 min with a maximum of 120 min. Although other staff may be called in to cover there will always be a period of inadequate supervision for the labour ward area which could prove dangerous.

In the present survey 87% of the calls were initiated by an ambulance crew who were already at the woman's home. A flying squad call involves mobilizing a second ambulance to collect the medical team. Occasionally three ambulances were involved. Clearly this represents a significant waste of resources.

Fergusson & Watson (1976) first suggested that this service was of limited use in an urban area. We endorse this view but now consider that it is an expensive and potentially hazardous practice which should be abandoned.

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