safely, reduced from one week to one day, and patients admitted for bilateral surgery spend only five days in hospital. Scott¹⁰ recommends free and early mobilisation after retinal detachment surgery and if this is right in the ward, why not at home? Is it really advantageous, or necessary, for such patients to stay in hospital longer than 12 days, as seems to be the case⁵ in 55% of British units? Patients who have undergone trabeculectomy can usually be discharged on the fourth day¹¹ and the healing of the tiny incision required for prophylactic iridectomy cannot require longer observation if the anterior chamber has reformed and the pupil is mobile.

Planning admission within a period of five nights is possible for all these procedures. The longer-stay cases (cataract, filtrations, and retinal detachments) may have surgery at the beginning of the week, while short-stay or day cases (squint, lids, and lacrimal drainage procedures) are treated at the end of the week. Surgeons may have to consider tailoring the choice of surgical procedure¹² and details of technique⁸ to allow shorter stays in hospital. They should also consider whether routine use of general anaesthesia really is to the overall advantage of the patient—for instance, in adult squints, cataracts, and glaucomas.

We believe that there are several advantages for a five-and-a-half-day week in an ophthalmic ward. Firstly, the patients like early freedom and a short stay. There is less chance of the aged becoming disorientated; they do not consider themselves ill and therefore readapt to their home surroundings more quickly and easily (thus easing the problems for relatives or social services). There have been no postoperative complications that could reasonably be attributed to earlier discharge. Secondly, the full-

time nursing staff appreciate the regular break at the end of a planned week's work, into which part-time staff can integrate more satisfactorily. Lastly, there must be some financial saving.

The only disadvantage has been the occasional need to borrow a bed on another ward for the weekend for emergency admissions, which, for a population of 200 000, average about one a week. Some of these patients do not require the weekend in hospital, while others, such as those who have been in road traffic accidents, often have multiple injuries and should be nursed in an accident ward.

References

- 1 Clayton, S G, *et al*, *Lancet*, 1971, **2**, 1197.
- 2 Longson, D, and Young, B, *British Medical Journal*, 1973, **4**, 528.
- 3 *British Medical Journal*, 1974, **2**, 71.
- 4 Towers, M K, *British Medical Journal*, 1974, **2**, 439.
- 5 Gilkes, M J, and Handa, V K, *Health Trends*, 1974, **6**, 76.
- 6 Burian, H M, and von Norden, G K, *Binocular Vision and Ocular Motility*, p 464. Washington, C V Mosby, 1974.
- 7 Strachan, I M, and Howell, R E, *Transactions of the Ophthalmological Society of the United Kingdom*, 1972, **92**, 629.
- 8 Bettman, J W, and Bettman, J W, *American Journal of Ophthalmology*, 1974, **78**, 967.
- 9 Galin, M A, *et al*, *Transactions of the American Academy of Ophthalmology and Otolaryngology*, 1974, **78**, 43.
- 10 Scott, J D, *Transactions of the Ophthalmological Society of the United Kingdom*, 1970, **90**, 57.
- 11 Watson, P G, and Barnett, F, *American Journal of Ophthalmology*, 1975, **79**, 831.
- 12 Argyrou, S, *et al*, *British Medical Journal*, 1974, **3**, 511.

Contemporary Themes

Assessment of the obstetric flying squad in an urban area

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Summary

The experience of an obstetric flying squad in an urban area over one year was reviewed. Very few calls were found to be justifiable, and it is concluded that few if any circumstances in modern obstetric practice merit continuing the flying squad in the urban area.

Introduction

The obstetric flying squad was introduced in 1933 as the Bellshill Emergency Obstetric Service with the intention of creating a rapid and efficient "first aid" service for managing obstetric emergencies occurring outside hospital. It has developed into a comprehensive service covering the whole country, in

which each district is responsible for fielding a team capable of covering the local population at a moment's notice. In practice, this team usually includes an obstetric registrar, an anaesthetic registrar, one or more midwives, and an ambulance crew. In teaching hospitals an obstetric houseman and a student are often included so that they may gain experience.

Having worked with three such teams in different urban districts, we got the impression that most of these emergency calls turned out to be nothing more than minor problems which could have been sorted out through the normal channels of a visit by the general practitioner or admission through the casualty department. Bearing in mind the cost of the service and the domestic upheaval caused by removing key staff from their hospital duties, we decided to review the flying squad calls in our district over the last year.

District

The district under review is in South London and has an estimated population of 190 200. From 1 April 1974 to 31 March 1975 there were 2616 births to district residents (including 33 home confinements) giving a total birth rate of 13.75 per 1000 total population, a little above the average for England and Wales. Although some of these births were actually outside the district they were matched by rather more outsiders who were delivered in the district. Only emergencies

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occurring in the district were covered by the obstetric flying squad service.

Survey

Every case seen by the flying squad was analysed. Age, parity, and length of gestation were recorded. It was also noted whether the patient had previously booked for antenatal care and delivery. Further information was collected under the following headings.

Initiation of the call—The person who initiated the call was identified in each case.

The condition of the patient and the reason for the call were noted by the flying squad on arrival at the emergency.

The immediate treatment given by the flying squad was recorded.

The final diagnosis in each case was made either at the time of the call, or later after investigation.

Retrospective assessment was made in each case as to the validity of the call.

Results

Table I provides basic information about each of the 25 patients and shows that there was no bias in favour of age or parity. All the cases which in the final analysis were thought to justify the flying squad call (underlined in continuous line for fully justified and dotted line for possibly justified) were over 20 weeks' gestation and all but one were over 32 weeks' gestation. By comparison only eight of the remainder were over 32 weeks.

TABLE I—Basic information on patients. Justified calls underlined

Case No	Final diagnosis	Age	Parity (Live births and miscarriages)	Gestation in weeks
1	APH abruptio placentae	22	0 + 1	38
2	2nd trimester abortion	23	2 + 1	27
3	Small APH placenta praevia	27	1	38
4	Threatened abortion	26	3	21
5	Previous spontaneous abortion (evacuation of retained products of conception 3/7 before)	36	6	12
6	Retained placenta after normal delivery	23	2 + 1	40
7	3rd stage bleeding. Postpartum haemorrhage	34	4	39
8	Retained products after criminal abortion	45	3 + 4	10
9	Normal but unsupervised home delivery	26	0	40
10	Threatened abortion—later became inevitable	25	0 + 1	9
11	Inevitable incomplete abortion	39	5 + 1	12
12	Retained placenta	29	1	40
13	Inevitable incomplete abortion	42	1 + 1	10
14	Normal home delivery unsupervised	27	5	40
15	Threatened abortion	31	1 + 1	17
16	APH early labour	24	1	38
17	APH (small blood loss one day before)	29	0 + 1	34
18	Retained products of conception	26	1 + 0	21
19	Premature labour	30	3	35
20	Small secondary postpartum haemorrhage	33	3 + 3	40
21	Small APH	35	3 + 2	40
22	Mid-trimester abortion	20	0	19
23	Abdominal pain in pregnancy	16	0	26
24	Severe APH	20	3 + 0	32
25	Normal delivery at home	30	6 + 4	34

APH = Ante-partum haemorrhage.

— = Fully justified.

- - - = Possibly justified.

The initiating call was made by the local ambulance service on 18 occasions, a friend of the patient on two occasions (cases 8 and 21), a district midwife on two occasions (14 and 19), the hospital midwife after a telephone call from the patient on two occasions (1 and 15), and by the patient's general practitioner on one occasion (17).

Table II outlines the condition of the patient, and the basic treatment given. Justification for a call was based purely on a retrospective assessment of the case, as it was presumed that in each case the persons who initiated the call thought they were justified in doing so in the prevailing circumstances. The calls for cases 1, 12, 18, and

TABLE II—Initial condition of patient and basic treatment given

Case No	Pulse	Blood pressure	Blood loss (ml)	Resuscitation
1	80	100/65	300–500	IV infusion
2	80	120/90	Not recorded	IM ergometrine
3	80	120/90	Slight	IV infusion
4	70	120/70	Slight	Nil
5	80	120/70	Slight	IV infusion
6	70	140/90	Not recorded	IV infusion IM ergometrine
7	76	140/90	1000	IV infusion + Syntocinon IM ergometrine
8	84	110/80	Slight (for 3 weeks)	Nil
9	84	110/70	Slight	IV infusion IM ergometrine
10	104	130/80	Slight	IV infusion IM ergometrine
11	100	120/90	Slight	Nil
12	96	120/80	200	IV infusion
13	88	120/85	Moderate	IV infusion
14		Not recorded		Nil
15	96	140/90	Slight	Nil
16	72	110/70	250	IV infusion
17	80	110/70	Slight (day before)	Nil
18	96	110/60	Heavy	IV group 0 Rh neg blood + ergometrine
19	80	110/70	Nil	Nil
20	86	110/70	Moderate	IV infusion
21	80	120/80	Slight	IV infusion
22	80	120/80	Not recorded	IV infusion
23	80	150/80	Nil	Nil
24	120	60/20	Heavy	IV group 0 Rh neg blood
25		Not recorded		Oxygen by mask to baby

IV = intravenous.
IM = intramuscular.

24 were thought to be fully justified. Those for cases 3, 7, and 16 could possibly be justified on the grounds that had the bleeding persisted (which it did not) the patient would have benefited from early treatment. It was extremely doubtful, however, whether any of these cases would not have done equally well by immediate transfer to hospital rather than waiting for treatment at home.

In none of the remaining 17 cases could the flying squad call be justified. As extreme examples, case 17 had had a small vaginal bleed on the day before the flying squad was called, and in case 22 the patient was complaining of mild abdominal pain only.

Discussion

The idea of the obstetric flying squad was conceived by Professor E Farquhar Murray, when he spoke to the Edinburgh Obstetric Society in 1929, suggesting that in a large industrialised area there were "many conditions in which instead of rushing a shocked and collapsed patient to hospital for nursing and specialised aid, the specialist and nurse should be rushed to the patient." He later organised an emergency obstetric service in Newcastle upon Tyne in 1935, but this was preceded by the Bellshill "special outdoor treatment unit," in the County of Lanark in 1933.¹ Since then there have been several reviews of the service,^{1–6} all of which have favoured maintaining the flying squad system.

We believe that in the last decade antenatal care and obstetric management have changed to such an extent that there is now considerable doubt about the value and cost-effectiveness of such a service in an urban area. In an era when less than 4% of deliveries are conducted in the home (and these only in cases carefully selected for their likely normality); there are fewer instances of shock after abortion; and there is a declining number of highly parous women it is increasingly unlikely for serious problems to occur outside hospital.

Previously about 75% of all calls for the flying squad were for third-stage complications. According to Liang,¹ there were 637 calls in 1951–61 for complications of the third stage, which constituted 63.9% of all calls. Three-hundred-and-fifty-two patients (55.2%) were clinically shocked with a blood pressure of less than 100/70 mm Hg. In our series there were only five patients (20%) with third-stage complications and none of these were shocked. We had three patients who were clinically shocked, two after an ante-partum haemorrhage and one as a result of a mid-trimester abortion.

In Liang's series¹ the second most common request for the flying squad was for abortion (16.9%); of these, 59% were shocked. From 1940 to 1950 36% of his cases of abortion

underwent dilatation and curettage at home, though this figure was reduced to 3.4% from 1951 to 1961. Nine out of our 25 calls were for complications of abortion and only one was shocked. We have neither the intention nor the facilities for carrying out a curettage at the patient's home.

We also found that the flying squad is very rarely called because of difficulties in labour or delivery, and these calls are unlikely to increase as all potentially complicated cases are booked for hospital confinement. We found no cause for administering an anaesthetic in the home and only two cases where an unmatched blood transfusion was necessary.

Most of our patients were admitted to hospital for further management and in every case we considered that the patient would have done as well if not better had she been brought straight to hospital by ambulance rather than waiting for the arrival of the obstetric flying squad. This conclusion pertains only to an urban area, where the distance to the hospital is likely to be short.

Unlike the experience of earlier surveys we were depressed by the many unjustified calls. These usually occur because the ambulance crew on the spot cannot differentiate between minor and major bleeding problems in pregnancy, and they have been trained to call the flying squad in all cases of doubt. Previously the flying squad has relied to a large extent on the "awareness and confidence of the general practitioner, obstetrician, and midwife,"¹ with the result that the vast majority of the calls

have been justifiable. In our area, where few general practitioners practise midwifery, the patient in difficulty at home will usually call the ambulance service first, so that the initiating call for the flying squad comes from a comparatively inexperienced service.

In common with the American Forces' experience in the Vietnam war we believe that acute emergencies are best dealt with by immediate transfer to an effective hospital and that in the urban area, where the hospital is never far from the patient's home, this cause is best served by taking the patient to the hospital rather than carrying out first aid in the home. In this respect we are no different from our surgical and medical colleagues.

In the exceptional case requiring emergency resuscitation at home we think that the task could be achieved by one person, possibly covering several specialties, and functioning either from the casualty department or from the local general practitioner unit.

References

- ¹ Liang, D Y S, *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1963, **70**, 83.
- ² Stabler, F, *British Medical Journal*, 1947, **2**, 878.
- ³ Lloyd, H, *Proceedings of the Royal Society of Medicine*, 1949, **42**, 1.
- ⁴ Shotton, D M, *Proceedings of the Royal Society of Medicine*, 1949, **42**, 4.
- ⁵ Dewhurst, C J, *Lancet*, 1952, **2**, 746.
- ⁶ Fraser, A C, and Tatford, E P W, *Lancet*, 1961, **2**, 126.

Today's Treatment

Endocrine and metabolic diseases

Adrenal diseases

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Each adrenal gland is composed of two embryologically, anatomically, and functionally distinct parts—the medulla and cortex. Diseases of the adrenal medulla are confined to the development of tumours, which may be benign or malignant and which may or may not secrete catecholamines (table). There

Diseases of the adrenal medulla

Tumour	Cell type	Age	Note
Sympathoblastoma	Sympathogone	Infancy	Highly malignant
Neuroblastoma	Sympathoblast	Childhood	Highly malignant, may secrete catecholamines
Ganglioneuroma	Ganglion cells	Young adults	Benign or malignant
Phaeochromocytoma	Chromaffin cells	Adults	Benign or malignant, secrete catecholamines

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is no recognised clinical syndrome involving underactivity of the adrenal medulla. Diseases of the adrenal cortex on the other hand may be characterised by either over- or under-production of its hormones: glucocorticoids, mineralocorticoids, or sex steroids. When a hormone (or hormones) is produced in excess, it may derive from an adenoma, carcinoma, or generalised hyperplasia of the glands. When hormone production is inadequate, it may be the result of congenital defects, organic disease of the gland, or impaired adrenocorticotrophic hormone (ACTH) or renin production.

Diseases of the adrenal medulla

POORLY DIFFERENTIATED TUMOURS

The sympathoblastoma of infancy is highly malignant and treatment is almost uniformly unsuccessful. Neuroblastomas tend to occur in older children. They also are highly malignant although a combination of surgery and radiotherapy is rewarded by apparent cure in 10%. Neuroblastomas may secrete catecholamines. Ganglioneuromas are rare tumours which occur in young adults. They may be benign or malignant.