Obstetric physicians: are they needed?

The workload of a medical complications in pregnancy clinic

ABSTRACT—Obstetric physicians are physicians whose training and particular expertise lie in the care of the medical complications of pregnancy. We present an audit of the work of our bi-weekly obstetric medicine clinic at Queen Charlotte’s Hospital, London, over a 10-month period from July 1994 to April 1995 inclusive, and discuss the need for obstetric physicians, with reference to individual medical conditions which complicate pregnancy.

Method

All women referred to the medical complications in pregnancy clinic, held twice a week at Queen Charlotte’s Hospital, over a 10-month period were listed on a database and classified by diagnosis and, more broadly, into affected systems. Telephone referrals for oral advice from clinicians in other hospitals and ward referrals were not included on the database, although they make up a substantial proportion of our work.

Results

Of the 549 women referred to the clinic during the observation period, 17 (3%) were referred specifically for pre-pregnancy counselling, usually by their general practitioner (GP) but occasionally self-referred, often from outside the Queen Charlotte’s catchment area. The remaining women were pregnant or immediately post-partum. Most pregnant women were referred from the obstetricians at Queen Charlotte’s Hospital, although some were referred from other hospitals or direct from GPs. A few women are followed up in our clinic throughout pregnancy despite their antenatal care and confinement being at their local hospital. Some women choose to come to Queen Charlotte’s for antenatal care because they have previously been seen in, or have heard about, the medical clinic at the hospital.

The patients were classified by diagnosis (Table 1) and by system (Table 2). Two-thirds of them were found to fall into 10 diagnostic categories. The largest group (11.5%) is those with hypertension, either essential hypertension pre-dating the pregnancy or hypertension/pre-eclampsia developing during pregnancy. There is also a group of women (5.5%) who have had severe pre-eclampsia in a previous pregnancy, who are therefore at risk of recurrent pre-eclampsia and require close monitoring. The second commonest referral (11%) is from obstetricians wishing to exclude cardiac disease in women found to have a heart murmur at their booking visit. Most of these have a physiological ejection systolic murmur attributable to pregnancy and are given due reassurance. Women with insulin-dependent diabetes or gestational diabetes make up 8% of the clinic population and there are 5% with hypothyroidism on maintenance thyroxine. Other common conditions are asthma, thromboembolic disease, epilepsy and migraine.

Discussion

This audit describes the outpatient workload of an obstetric medicine clinic in a large obstetric unit (4000 deliveries per year) with a tertiary referral practice, and gives a measure of the experience obstetric physicians gain of the various medical conditions that complicate pregnancy. It demonstrates a demand for our services—but this does not prove that obstetric physicians are essential or that the specialty should be expanded. We therefore discuss first whether the

Table 1 Patients referred to the medical complications in pregnancy clinic: classification by diagnosis

| Diagnosis                        | No. | %     |
|----------------------------------|-----|-------|
| Hypertensive disorders of pregnancy | 63  | 11.5  |
| Physiological heart murmur       | 61  | 11    |
| Diabetes                         | 45  | 8     |
| Thromboembolic disease           | 33  | 6     |
| Asthma                           | 32  | 6     |
| Previous pre-eclampsia           | 31  | 5.5   |
| Hypothyroidism                   | 27  | 5     |
| Epilepsy                         | 26  | 5     |
| Migraine                         | 22  | 4     |
| Pre-pregnancy counselling        | 17  | 3     |
| Other                            | 192 | 35    |
| Total                            | 549 | 100   |

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service could be delivered as well, or better, in other ways.

Could obstetricians deliver the service?

At Queen Charlotte’s Hospital, obstetricians choose to refer most medical problems to the obstetric medicine clinic. Hypertensive disorders of pregnancy are by far the most common complication of pregnancy, affecting 10% of women. Over a 10-month period we would expect about 330 women to present with hypertension in pregnancy, but only about one-fifth of that number are seen in the clinic. Many of the more severely hypertensive patients and those with severe pre-eclampsia are seen as inpatient referrals and so are not included in that figure. Women with pre-eclampsia

| Medical system                  | No. | %  |
|---------------------------------|-----|----|
| Hypertensive disorders          | 109 | 20 |
| Cardiac                         | 99  | 18 |
| Central nervous system          | 72  | 13 |
| Respiratory                     | 59  | 11 |
| Diabetes                        | 45  | 8  |
| Thyroid                         | 41  | 7.5|
| Thromboembolic disease          | 33  | 6  |
| Connective tissue disease       | 21  | 4  |
| Other                           | 70  | 13 |
| Total                           | 549 | 100|

| Diagnosis                          | No. | %  |
|------------------------------------|-----|----|
| Pre-eclampsia                      | 36  | 31 |
| Previous pre-eclampsia             | 31  | 28 |
| Essential hypertension             | 27  | 25 |
| Pre-pregnancy counselling          | 13  | 12 |
| Other                              | 2   | 2  |
| Physiological heart murmur         | 61  | 62 |
| Palpitations                       | 19  | 19 |
| Structural heart defect            | 16  | 16 |
| Other                              | 3   | 3  |
| Epilepsy                           | 26  | 36 |
| Migraine                           | 22  | 30.5|
| Other                              | 24  | 33.5|
| Asthma                             | 32  | 54 |
| Pneumonia                          | 4   | 7  |
| Sarcoid                            | 4   | 7  |
| Other                              | 19  | 32 |
| Gestational diabetes               | 22  | 49 |
| Pre-existing diabetes              | 10  | 22 |
| Pre-pregnancy counselling          | 4   | 9  |
| Other                              | 9   | 20 |
| Hypothyroidism                     | 27  | 66 |
| Goitre                             | 8   | 19 |
| Hyperthyroidism                    | 4   | 10 |
| Postpartum thyroiditis             | 1   | 2.5|
| Pre-pregnancy counselling          | 1   | 2.5|
| High risk (heparin throughout      | 21  | 64 |
| pregnancy and puerperium)          |     |    |
| Low risk (heparin to cover         | 8   | 24 |
| delivery and puerperium)           |     |    |
| Other                              | 4   | 12 |
| Antiphospholipid syndrome          | 11  | 52 |
| Systemic lupus erythematosus       | 4   | 19 |
| Other                              | 6   | 29 |
develop a multitude of medical complications [1], so obstetricians welcome the support and advice of obstetric physicians; these patients are managed jointly so that they benefit from medical experience in controlling hypertension and obstetric experience in judging the right time for intervention.

However, there are also many patients with mild hypertension near term which, because it is so common, obstetricians feel confident to manage. Some obstetricians develop an interest in high risk obstetrics and attract a referral practice, but their experience is diluted by a large population of normal pregnant women and women with non-medical obstetric complications. Women with severe hypertension and severe pre-eclampsia therefore form a smaller part of obstetricians' clinical experience than of obstetric physicians' (17%, predominantly severe). The presence in the hospital of physicians with a special interest in hypertension in pregnancy helps ensure that obstetricians are kept abreast of advances in its management through cross-consultation.

The dilution of experience comment applies with even greater force to most other medical complications of pregnancy which occur much less frequently than hypertension (eg intrahepatic cholestasis of pregnancy). Many of the women we see have pregnancies complicated by obstetric as well as medical factors, for whom the best patient care is often provided by a multidisciplinary approach, preferably in a combined clinic where the patient, the obstetric physician and the obstetrician can discuss key management issues.

Could the service be delivered as well or better by medical specialists?

In most hospitals there is no obstetric medicine service. Patients are cared for by a range of medical specialists: heart murmurs are referred to cardiologists, epilepsy and migraine to neurologists, diabetes and hypothyroidism to endocrinologists and so on—so why change?

As in all medical specialties, expertise follows experience. Obstetric physicians see more pregnant women with a particular condition than do specialist physicians. This is particularly true of conditions which occur only, or predominantly, in pregnancy. The counselling and management of women with a previous history of thromboembolism and/or thromboembolism in pregnancy is a good example. Investigating these women and the prevention or treatment of the thromboembolism account for 6% of our workload, but it is an area in which few physicians have much experience. Fifty-eight (31%) of 188 consecutive telephone consultations from other hospital doctors to one of us (MdS) were related to thromboembolism.

Migraine is a common complication of pregnancy, with a new patient seen every two weeks. Neurologists are equally familiar with migraine, but may not be con-

fident about the safety of drugs such as aspirin and propranolol in pregnancy. Expertise in the clinical pharmacology of drugs in pregnancy and lactation is one of the obstetric physician's most important attributes. Very few drugs are licensed for use in pregnancy; manufacturers' data sheets often carry necessary cautions against the use of drugs in pregnancy, but seldom give any quantitative measure of the risks to fetus, mother or breast-fed infant. Much prescribing in pregnancy must therefore be governed by careful assessment of risks and benefits, which requires knowledge of the literature and wide personal experience. A database is kept of all medications prescribed for our patients on which we can draw when judging the safety of drugs in pregnancy and lactation.

Two of the conditions for which these skills are important are epilepsy and asthma. Less than half the epileptic women seen in the clinic have received accurate counselling concerning the teratogenic risk of their drugs and most have not been advised to take pre-conceptual folic acid [2]. Some require close supervision throughout pregnancy, with regular adjustment of their anticonvulsant dose. Asthmatics comprise 6% of the patient population; they are usually followed in the clinic throughout pregnancy. This is an ideal time to optimise treatment in previously under-treated asthmatics and to diagnose asthma in women who have been symptomatic but undiagnosed before pregnancy. Many of our asthmatic patients have stopped or reduced their medication because of fears (theirs or their doctors') regarding its safety in pregnancy [3]. It is not unusual to see asthmatic women in whom inhaled or oral steroids have been withheld, although clearly indicated, just because they are pregnant.

There is a similar risk of under-treatment when pregnant women develop an acute medical emergency. The on-call medical registrar, who may have little or no experience of medical problems in pregnancy, may withhold vital investigations (eg chest X-ray, lung scan) or drugs (eg steroids, aspirin, adenosine) because he is unaware of the safety of such measures in pregnancy. A 24-hour advisory service is provided at Queen Charlotte's.

Much of our work involves the counselling of women before or during their pregnancy regarding:

- the possible effects of their medications in pregnancy,
- how their medical condition may be affected by pregnancy,
- how their pregnancy may be affected by their medical condition,
- whether a medical complication they experienced in a previous pregnancy is likely to recur in subsequent pregnancies and how it may be prevented,
- the risk to their offspring of developing the condition.
Such counselling is ideally performed pre-conceptually or as early as possible in unplanned pregnancy. Many GPs and physicians are not sufficiently confident of their knowledge to volunteer such advice, but obstetric physicians are well qualified to offer counselling regarding a wide spectrum of medical conditions. Two practical advantages that obstetric physicians can offer are convenience and accessibility. The obstetrician has a single referral pathway for all medical complications close at hand. The pregnant woman is spared extra visits to other hospitals or buildings and can combine her medical attendance with her antenatal visit.

**Does an obstetric medicine service eliminate the need for other specialist physicians?**

Other specialist physicians are certainly still needed because there are rare conditions encountered so infrequently even by obstetric physicians that they are not listed in our 10-month audit; for example, thrombotic thrombocytopenic purpura with multisystem involvement, which may require the skills of several specialists [4]. In the absence of an obstetric physician, such a patient may escape initial diagnosis and be inappropriately referred in pregnancy or the puerperium [15].

Recognising one's limitations is an important ingredient of success in all branches of medicine. Obstetric physicians are not fully trained cardiologists and recognise the need for joint management with their cardiological colleagues of the few patients with conditions such as severe mitral stenosis, aortic stenosis or pulmonary hypertension. However, three-quarters of the patients referred to us with suspected cardiac problems require no more than a careful history, physical examination, minimal investigation and reassurance. We are familiar with the structural heart problems which may cause problems during pregnancy and delivery and can reassure women with, for instance, a repaired patent ductus arteriosus that this will not affect or be affected by pregnancy.

Obstetric physicians spend much of their time in joint medical-obstetric clinics, antenatal clinics, labour wards, perinatal mortality and other academic obstetric meetings, and work in close collaboration with obstetricians. They therefore have a better understanding than most physicians of the obstetric implications of medical recommendations in pregnancy, for example decisions concerning the timing and mode of delivery with pre-eclampsia, heart disease or gestational diabetes.

**How should obstetric physicians be trained and continue their education?**

The Royal College of Obstetricians and Gynaecologists (RCOG) has formally acknowledged the need for physicians with expertise in the medical complications of pregnancy. A report of its working party on the minimum standards of care in labour stated [6]:

During labour women with medical problems such as diabetes, heart disease, severe anaemia or sickle cell disease should have the services of a general physician with particular interest in pregnancy and their medical condition.

Similar recommendations appear in the most recent report on confidential enquiries into maternal deaths in the UK [7]:

There is a need to improve professional advisory and counselling skills for women with pre-existing (medical) diseases, both before and during pregnancy. [There is a need for] ... expert supervision and combined care with a specialist in the particular condition.

A planned postgraduate training for obstetric physicians recognised by the RCOG and the Royal College of Physicians (RCP) is essential. Since the doctors are primarily physicians, it would be appropriate for the RCP to take the leading role. Obstetric physicians should emerge as well trained general physicians with special knowledge of pregnancy and the medical conditions specific to it. They must be committed to keeping abreast of clinical and scientific advances in general medicine and obstetrics. This will become easier as the specialty expands and develops its own academic departments, societies and literature.

**How many obstetric physicians are needed?**

It would be impracticable to appoint a full-time obstetric physician to each of the 279 consultant obstetric units in the UK. Based on current workload, we estimate that one full-time obstetric physician would be needed for every 10,000 births, i.e. about 80 in the UK. Possible solutions would be for the physicians to split their sessions between two or three hospitals or be appointed part-time with a general medical commitment. However, the current vogue for merging and centralising obstetric services may produce enough large units specialising in high-risk pregnancy to require a number of full-time single-centre posts, which would be a good start to the expansion of the specialty.

**Conclusion**

Obstetric medicine provides expert care for pregnant women with medical problems. Obstetric physicians have a great deal to learn from obstetricians and they in turn are able to teach both physicians and obstetricians. The continuing intellectual curiosity of the clinicians who stand at this interface fosters scientific research and ensures the further consolidation and development of this exciting specialty. The body of knowledge continues to grow, and the clinical
expertise continues to improve in a field covering some of the most challenging and rewarding problems in clinical practice.

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