TONSILS, TEETH, AND MATERNITY.

BY

BERNARD E. JERWOOD, M.D.,
MANCHESTER.

THERE is a tendency to-day to attribute many chronic illnesses to focal sepsis, and of the foci of sepsis the tonsils and teeth constitute a large proportion. Articles have recently been published by Platt,¹ Osman,² and Langdon Brown³ in which infected tonsils are blamed for a large proportion of diseases of the kidney. Now disease of the kidney has always been closely associated with the toxæmias of pregnancy, which undoubtedly contribute largely to maternal mortality and morbidity. Gynaecologists, however, and others who are now writing a great deal about the dangers of child-bearing, make very little mention of septic foci, or, indeed, of anything beyond the genital tract. Professor Young⁴ and Gibberd⁵ have lately disagreed as to whether pregnancy can originate nephritis in previously healthy kidneys. It would appear that kidneys already strained to the utmost in disposing of poisons, usually of infective origin, are frequently damaged temporarily or permanently by the extra work thrown upon them by pregnancy. Pregnancy would not damage a healthy kidney, but is, as Gibberd puts it, "the most delicate test of renal function that we possess."

The great war demonstrated that thousands of men, presumed healthy, really belong to the C3 category. Maternity demonstrates less strikingly, but just as certainly, that the same is true of women. Unfortunately, however, the pregnant woman has to go through with her campaign and cannot be discharged as unfit, though, as the pregnancy proceeds, her unfitness often becomes obvious. It had been my experience during the few years spent in general practice to find that nearly all illnesses in connexion with pregnancy were not due to the pregnancy, but merely made to assume importance on account of the pregnancy. Chronic tonsillitis was by far the commonest underlying cause, at any rate in young women. Oral sepsis affected some of the older.

The Investigation of Focal Sepsis.

Since October, 1928, I have been engaged to a considerable extent in the examination of national health insurance patients referred for a second opinion with regard to their fitness for work. Relatively few acute illnesses are seen, and much time is naturally spent in looking for the underlying causes of ill health. In the district in which I do most of my work a high proportion of patients referred to me are either pregnant or post-parturient women. Their complaints are often vague—anaemia, debility, gastritis, bronchial catarrh, rheumatism, and tachycardia—but when these are coupled with pregnancy or lactation, it is obvious that the woman is unfit for work. Whatever a case is labelled the condition is commonly one of a low-grade toxæmia which might have passed unnoticed but for the added burden of pregnancy. Such a toxæmia might, of course, be due to a variety of causes, but in many cases the tonsils or gums appeared sufficiently unhealthy to warrant their impeachment, and ordinary clinical examination revealed no other cause.

In my investigations I have judged the infectivity of tonsils by the following criteria:

- Considerable enlargement.
- Lobulation or inequality of the two tonsils.
- The presence of large crypts or one large crater.
- The presence of pus or visible debris.
- The enlargement of the cervical glands without other obvious cause, or of the "tonsillar" gland in any case.
- The presence of any tissue in the tonsil beds after tonsillectomy.

The history is of great value, especially a history of scarlet fever, rheumatic fever, and quinsy. Leading questions may be necessary, as in the case of a woman of 52, incapacitated with rheumatism attributed to the menopause, who denied any previous illness. In answer to leading questions she admitted having had quinsies annually till she was 36, when she "outgrew them."

Oral sepsis is not so difficult to investigate in the insured class as in the wealthy. Caries or pyorrhoea is often glaring; on the other hand, complete dentures in young people are quite common. Conservative treatment of teeth is more readily available for wealthier people, and in them apical infection may do its evil work for years before its presence is discovered. But in the insured class pyorrhoea or caries runs a rapid course and leads to complete extraction before much apical or bone infection takes place, or if extraction has not taken place, the sepsis is at any rate obvious.

Results of Examination.

During January and February, 1929, 63 pregnant and 121 post-parturient women were seen. Results of complete clinical examination of these cannot be presented in a readable form. Raised blood pressure and albuminuria were often found, and as these are perhaps the most definite physical signs of toxæmia, they are given in tabular form, together with the history of tonsillitis, the condition of the tonsils, and the condition of the teeth and gums. The few other definite conditions met with are recorded in the footnotes.

TABLE I.—Comprising only those Cases found Unfit.

UNFIT CASES OF PREGNANCY.	Age Groups.					Total.	Per Cent.
	17-20	21-25	26-30	31-35	36-41		
Number of cases ...	6	18†	9†	9†	3	45	100
History of scarlet fever, rheumatic fever, or tonsillitis	5	11	9~	8	1	34	76
Septic tonsils present ...	5	16	6	7	2	35	83
Dental caries or pyorrhoea present	2	10	3	3	3	21	46
Raised blood pressure present	4	13	5	6	2	30	67
Albuminuria found ...	0	2	1	3	0	6	13

UNFIT POST-PARTURIENT CASES.	Age Groups.					Total.	Per Cent.
	17-20	21-25	26-30	31-35	36-42		
Number of cases ...	11	32	15	9	15	82	100
History of scarlet fever, rheumatic fever, or tonsillitis	8	22	6	4	3	43	52
Septic tonsils present ...	11	28	11	9	8	67	82
Dental caries or pyorrhoea present	3	14	9	6	10	42	51
Raised blood pressure present	3	8	6	1	8	26	32
Albuminuria found ...	3	7	3	4	4	21	25

* Includes one case with influenza.

† Includes one case with positive Wassermann reaction.

‡ Includes one case with glycosuria and one with phthisis.

A second table shows how many patients with a raised blood pressure, albuminuria, or both, also had septic tonsils, oral sepsis, or both.

TABLE II.—Showing how many of the Unfit Cases with a Raised Blood Pressure, Albuminuria, or Both, were associated with Septic Tonsils, Oral Sepsis, or Both.

PREGNANCY CASES.	Age Groups.					Total.
	17-20	21-25	26-30	31-35	36-41	
Cases with raised blood pressure—						
Septic tonsils ...	3	6	2	2	0	13
Tonsillar and oral sepsis ...	1	5	1	1	2	10
Oral sepsis ...	0	1	1	0	0	2
Cases with albuminuria—						
Septic tonsils ...	—	—	1	—	—	1
Tonsillar and oral sepsis ...	—	1	—	—	—	1
Oral sepsis ...	—	—	—	—	—	0
Cases with raised blood pressure and albuminuria—						
Septic tonsils ...	—	—	—	1	—	1
Tonsillar and oral sepsis ...	—	1	—	—	—	1
Oral sepsis ...	—	—	—	—	—	0
Cases with raised blood pressure or albuminuria—						
No focus found ...	—	—	1	2	—	3

TABLE II (continued).

POST-PARTURIENT CASES.	Age Groups.					Total.
	17-20	21-25	26-30	31-35	36-42	
Cases with raised blood pressure—						
Septic tonsils	1	3	1	—	3	8
Tonsillar and oral sepsis	1	1	2	—	2	6
Oral sepsis	—	—	—	—	1	1
Cases with albuminuria—						
Septic tonsils	1	1	—	—	1	3
Tonsillar and oral sepsis	1	1	—	3	—	5
Oral sepsis	—	—	—	—	1	1
Cases with raised blood pressure and albuminuria—						
Septic tonsils	—	3	1	—	—	4
Tonsillar and oral sepsis	1	2	2	1	1	7
Oral sepsis	—	—	—	—	—	0
Cases with raised blood pressure or albuminuria—						
No focus found	—	—	—	—	1	1

These tables show that in nearly all the patients with raised blood pressure and albuminuria there were also present septic tonsils, and in only a very few was there oral sepsis alone. In this connexion I might add that I often found the knee-jerks absent or nearly so in patients with septic tonsils, but never in patients with oral sepsis alone. Exaggerated knee-jerks are common with oral or tonsillar sepsis. Unfortunately there were no controls, but

it is significant that hardly any of the patients had had complete enucleation of tonsils. The tables also showed that raised blood pressure was more commonly found than albuminuria, especially in pregnant women; and that albuminuria occurred more often in the post-parturient than in the pregnant women.

It may be interesting here to remember Lord Dawson's⁶ reference to raised blood pressure in school boys and girls. Of 650 persons between the ages of 10 and 17, 8 per cent. were found to have blood pressures above 130. No cause for this was discovered, and I suggest that, if a similar investigation be carried out again, special notice (including history) should be taken of the tonsils.

Summary.

The absence of controls makes definite conclusions impossible, but it is suggested that maternal mortality might be reduced by eradicating focal sepsis, preferably before pregnancy has occurred. The tonsils are the commonest site of focal sepsis in young adults, and therefore in most pregnant women. This is not surprising, since our present civilization encourages air-borne infections, although it has reduced many diseases spread by food and vermin. Just as influenza and nasopharyngeal catarrhs constitute an overwhelming majority of the acute illnesses met with in general practice, so chronic sepsis of the upper respiratory tract lies at the root of most chronic debilities.

REFERENCES.

¹ Platt: *British Medical Journal*, April 20th, 1929. ² Osman: *Guy's Hospital Reports*. ³ Langdon Brown: *British Medical Journal*, May 4th, 1929. ⁴ Young: *Ibid.*, January 19th, 1929. ⁵ Gibberd: *Ibid.*, April 13th, 1929. ⁶ Lord Dawson: *Ibid.*, December 19th, 1925.

INDUCTION OF PREMATURE LABOUR.

BY

ETHEL M. TOWNEND, M.D., B.S.,

HULL.

By the method about to be described I have induced premature labour 137 times. From the statistics given below it will be seen that of the cases in which the mothers were healthy and the presentation was normal, and the only abnormality was disproportion, over 85 per cent. of the infants are still alive and well, their ages ranging from 4 months to 4 years; furthermore, that without exception the mothers were discharged well and with a sound uterus and abdominal wall.

Selection of Cases for Induction.

I ascribe these good results not only to the method, but to the fact that the cases have been carefully selected. Induction is unsuitable in the presence of the severer forms of pelvic deformity with a true conjugate under $3\frac{1}{2}$ inches. In 90 per cent. of all cases of pelvic deformity the amount of contraction is small, and a foetus of thirty-six to thirty-eight weeks' development will pass through the pelvis as easily as a full-term child will pass through a normal pelvis. In these cases induction is valuable because, if the pregnancy is allowed to proceed to term, it is then a matter of chance if the foetus can be delivered alive. In the normal case with a vertex presentation the head is usually fixed or capable of engaging by the thirty-sixth or thirty-seventh week. If there is slight pelvic contraction, and the head just fails to engage, the moulding it will receive during labour would make it still capable of passing through; but after another two or three weeks its passage would be difficult, or impossible. Such a case is best dealt with by the induction of premature labour. A second group of cases suitable for induction are those in which rotation during the thirtieth to the thirty-sixth week has failed to convert a breech presentation to a presentation of the vertex. Especially is this an indication in primipara. The third suitable group includes patients suffering from cardiac or renal decompensation, and therefore ill-fitted to withstand prolonged labour, deep anaesthesia, and shock.

Description of the Method.

A course of castor oil and quinine is first given, as suggested by Dr. Eden—that is, oil at 6 a.m., quinine gr. x at 10 a.m., 2 p.m., and 6 p.m., on alternate days for three days. This method is often sufficient in cases near term,

but not before the thirty-seventh week. Sometimes the head is driven into the brim, and although actual labour does not start the case can be allowed to go to term. The quinine is only given if the patient is healthy.

If labour does not begin or the head fails to engage, the patient is prepared as for a general anaesthetic, and thirty minutes before the operation a hypodermic injection of hyoscine co. (B) (Burroughs Wellcome) is given. The lithotomy position is used; the shaved vulva is bathed with a 1 per cent. solution of picric acid, a vaginal speculum introduced, and the exposed cervix swabbed with 1 in 2,000 mercury perchloride lotion; a lysol douche is then given. A Jacques oesophageal bougie is now held in the left gloved hand, and two fingers of the right are passed up to the cervix. The tube can now be guided along the palmar surface of these fingers into the cervical canal, and so into the uterus. Care must be taken to ensure that the whole tube is passed within the internal os. The cervix is not injured, because no vulsellum forceps are used. If the cervix is high up and small a little open ether will make the operation easier by relaxing the levator ani muscle. There is practically always sufficient dilatation to allow the tube to pass. No further attention is required beyond a daily douche, and if the tube presents below the head it is best to withdraw it when the cervix is half dilated.

The advantages of this method are, first, that it is reliable—I have only had to reintroduce the tube once; secondly, that it is quite painless during the waiting stage, unlike the gum-elastic bougies which press into the posterior vaginal wall; and, thirdly, that there is no ladder leading from the vagina into the uterus up which infection may pass. The time from the introduction of the tube to the delivery averages about twenty hours.

Results.

Total induction—1924 to August, 1929	137
Maternal mortality	nil
Maternal morbidity—slight pyrexia	2
Infants: Period 1924-28 inclusive. Condition in April, 1929.	
(1) Disproportion only	82
Living	70
Cannot trace	5
Died	7
(2) Maternal illness or malpresentation	33
Living	12
Cannot trace	10
Died	11

My thanks are due to Dr. Allen Daley (medical officer of health for Hull) for permission to publish this paper, and to Dr. Gilchrist, who has obtained the after-histories of the infants for me.