

(1955). But by the very nature of obstetric work it is unlikely that the services of a skilled anaesthetist can be always and everywhere available. In America, Greenhill and Gordon have both made repeated outspoken criticisms of the anaesthetic service available for obstetric patients. Gordon (1952) has said: "I don't think there are half a dozen places in the United States where an obstetrician can get, at any time, day or night, the anaesthetic he likes." Recently in Britain, Wrigley (1955) has commented, "In hospital, too often the administration of anaesthetics to women in labour is left in the hands of the most junior member of the anaesthetic team." Undoubtedly, the anaesthetic service to obstetric units in this country is improving rapidly, but for a long time to come it must be expected that some obstetric anaesthetics will have to be administered by the unsupervised trainee-anaesthetist or a fellow obstetric officer or practitioner. Therefore any recommendations concerning anaesthesia for forceps delivery must take this state of affairs into account.

Local analgesia is best for simple forceps delivery, chiefly because it avoids the greater risks of the other methods, but also because it allows the mother to be present at the birth of her baby; further, it can have no adverse effects upon the baby. But it is unlikely that more than 60% of assisted deliveries can be done under local analgesia.

When general anaesthesia is to be used it seems likely that the expert and the experienced trainee will wish to use an endotracheal tube, and it is part of the purpose of writing this to plead that anaesthetists be given working conditions in the labour theatre equal to those obtaining in a modern surgical theatre. In most obstetric units that implies the use of a surgical table for delivery, *whether it be by forceps or caesarean section*.

When a general anaesthetic is to be given by someone with no special training, a safe technique is that described by Morton and Wylie (1951), using the Boyle machine, which involves continuous suction on a wide-bore stomach tube throughout the administration. This technique is not popular, and if it is not to be used the Birmingham figures suggest that it *may* be as safe to use the open mask. That the latter is not entirely safe is apparent from a study of the maternal deaths reported by Lock and Greiss (1955), several of which were associated with open ether. Yet the feeling remains that it would often be safer than the handling of a machine by an inexpert practitioner. Under such conditions there can be little doubt that the lateral position advocated by Morley (1955) offers an additional factor for anaesthetic safety, though it may on occasion add to the obstetric difficulties. Certainly it would be difficult now to defend the use of the machine (in the absence of a cuffed endotracheal tube) for a patient whose stomach was not certainly empty and who was to be delivered in the lithotomy position in a bed.

These observations are important in relation to undergraduate teaching. The necessity of training every medical student to "anaesthetize competently" for a forceps operation or breech delivery has recently been noted (*British Medical Journal*, 1956); but there is still no unanimous opinion on what technique he is to be taught to use.

Summary

In the City of Birmingham death from aspiration of vomit has accounted for 4% of maternal mortality in recent years.

National figures appear to confirm this estimate of its frequency.

All Birmingham deaths from aspiration have occurred in hospital.

Over 3,000 forceps deliveries have been performed in domiciliary practice in the city without any such mortality. It is suggested that the anaesthetic machine (in other than skilled hands) may be less safe than the open mask.

Progress with the use of local analgesia for forceps delivery from one hospital is reported. At present 60% of forceps deliveries are done without a general anaesthetic.

I owe thanks to Dr. Jean M. Mackintosh, Medical Officer of Health for Maternity and Child Welfare, for allowing me to study her complete records of maternal deaths in the City of Birmingham; I am grateful to Dr. Eileen Ring, of the same department, for the help she has given me. My thanks are also due to the many practitioners in the city who answered my queries and to the hospital consultants who allowed me to publish my summaries of their case records and the figures from the Birmingham Maternity Hospital.

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INCIDENCE OF TONSILLECTOMY, CIRCUMCISION, AND APPENDICECTOMY AMONG R.A.F. RECRUITS

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Whilst doing my national service in the R.A.F. I decided to take the opportunity afforded by the routine examination of recruits of analysing the incidence of tonsillectomy, circumcision, and appendicectomy in Great Britain. Though these are probably the most commonly performed operations, only in the case of circumcision has there previously been a survey of the incidence in the whole country. Inspired by Gairdner (1949), MacCarthy *et al.* (1952) analysed the incidence of this operation in a national sample of 4-year-olds.

All tonsillectomies performed under the aegis of the local education authorities in England and Wales are notified to the Chief Medical Officer of the Ministry of Education. In his biennial report to the Minister, the Chief Medical Officer records the total number of such operations performed each year. These figures apply only to children of school age (5 to 14) attending Government-maintained and assisted schools. Glover (1950) has analysed these returns and commented on the large number of tonsillectomies performed.

Moloney *et al.* (1950) have recorded the number of cases of acute appendicitis occurring in the Oxford area between 1945 and 1948, and from them estimated the number of cases in Great Britain each year.

TABLE I.—Geographical and Scholastic Background of R.A.F. Recruits

Type of School	Type of District	England			Scotland			Wales			Great Britain	
		No.	Percentage of		No.	Percentage of		No.	Percentage of		No.	Percentage of Total
			England	Total		Scotland	Total		Wales	Total		
Elementary ..	Urban	626	51.1	43.7	59	43.1	4.1	22	30.1	1.5	707	49.3
	Rural	151	12.4	10.5	26	19.0	1.8	10	13.7	0.7	187	13.0
	Total	777	63.5	54.2	85	62.1	5.9	32	43.8	2.2	894	62.3
Grammar ..	Urban	318	26.0	22.2	41	29.9	2.9	24	32.9	1.7	383	26.8
	Rural	75	6.1	5.2	7	5.1	0.5	13	17.8	0.9	95	6.6
	Total	393	32.1	27.4	48	35.0	3.4	37	50.7	2.6	478	33.4
Public ..	Urban	40	3.3	2.7	4	2.9	0.3	4	5.5	0.3	48	3.3
	Rural	14	1.1	1.0	0	0.0	0.0	0	0.0	0.0	14	1.0
	Total	54	4.4	3.7	4	2.9	0.3	4	5.5	0.3	62	4.3
All schools	Urban	984	80.4	68.6	104	75.9	7.3	50	68.5	3.5	1,138	79.4
	Rural	240	19.6	16.7	33	24.1	2.3	23	31.5	1.6	296	20.6
	Total	1,224	100.0	85.3	137	100.0	9.6	73	100.0	5.1	1,434	100.0

TABLE II.—Ages at Date of Tonsillectomy. Urban and Rural Districts

Type of District	Age Last Birthday at Date of Tonsillectomy															Total	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13 and Over	Un-known		
<i>Analysis by Countries</i>																	
England ..	Urban	—	2	10	9	42	48	27	56	28	16	13	22	10	14	30	327
	Rural	—	—	—	1	9	6	1	14	7	4	1	4	2	4	9	62
	Total	—	2	10	10	51	54	28	70	35	20	14	26	12	18	39	389
Scotland ..	Urban	1	—	—	3	3	5	1	6	3	2	3	2	1	3	4	37
	Rural	—	—	—	1	2	2	—	—	2	—	1	—	—	—	2	10
	Total	1	—	—	4	5	7	1	6	5	2	3	3	1	3	6	47
Wales ..	Urban	—	—	—	—	—	3	—	4	—	2	3	—	1	1	—	15
	Rural	—	—	—	3	—	1	—	—	—	—	1	—	1	—	—	7
	Total	—	—	—	3	—	4	—	4	—	2	4	—	2	2	—	22
<i>Analysis by Schools</i>																	
Elementary	Urban	1	2	3	7	28	26	14	41	13	10	10	14	8	10	27	214
	Rural	—	—	—	2	4	4	—	7	5	3	1	2	3	4	9	44
	Total	1	2	3	9	32	30	14	48	18	13	11	16	11	14	36	258
Grammar	Urban	—	—	4	5	17	25	14	23	17	9	8	8	3	8	6	147
	Rural	—	—	—	3	6	5	1	5	4	—	1	2	—	1	2	30
	Total	—	—	4	8	23	30	15	28	21	9	9	10	3	9	8	177
Public ..	Urban	—	—	3	—	—	5	—	2	2	1	1	2	1	—	1	18
	Rural	—	—	—	—	1	—	—	2	—	1	—	1	—	—	—	5
	Total	—	—	3	—	1	5	—	4	2	2	1	3	1	—	1	23
Total ..	Urban	1	2	10	12	45	56	28	66	32	20	19	24	12	18	34	379
	Rural	—	—	—	5	11	9	1	14	9	4	2	5	3	5	11	79
	Total	1	2	10	17	56	65	29	80	41	24	21	29	15	23	45	458

In addition to determining the actual incidence of the three operations, I investigated the effect of differing backgrounds on these incidences, and the age of operation in the cases of tonsillectomy and appendicectomy.

Material

The recruits examined were those reporting, at the end of their basic training, for instruction as nursing attendants. I saw them on arrival at the R.A.F. Medical Training Establishment (M.T.E.).

Before being posted to the M.T.E. the recruits had undergone certain processes of selection, including the rejection of all those found unfit for service in the armed Forces. These processes of selection prevent my group from fulfilling the complete requirements for a random sample. However, the number actually opting for training as nursing attendants constituted less than 30%, the establishment being filled from among those found suitable at the recruit centre.

The National Service Acts make every young man in England, Scotland, and Wales liable for conscription, though the age of call-up varies. All the recruits reporting at the M.T.E. during the course of the investigation were examined. They included a few men from older age groups who had joined the R.A.F. as volunteers, intending to make

it their career. These, together with those from overseas (including Northern Ireland, where there is no conscription), were excluded from the survey.

The information was obtained by means of a questionnaire, which only five declined to answer.

There remained 1,434 recruits from England, Scotland, and Wales between the ages of 17 and 24 (all of them born between 1930 and 1936) for whom the information is complete. They may be regarded as a cross-section of fit men of this age group in Great Britain, though how far they differ from a representative sample of all those born between 1930 and 1936 is not known.

The recruits were classified into groups from urban and rural areas in England, Scotland, and Wales. Accurate social classification was not possible. Instead, they were grouped according to the type of school they had attended after the age of 13 years—that is, elementary, grammar, and public.*

*Since the 1944 Education Act, elementary schools (for children over the age of 11) have been called secondary. "Elementary schools" in this survey include, as well as these, (a) technical schools and (b) junior secondary schools in Scotland. "Grammar schools" include the senior secondary schools in Scotland. The term "public school" is used in this survey in the English way—that is, an expensive private school. All such schools, whether or not public schools in the strictest sense, were included in this group.

TABLE III.—Incidence of Tonsillectomy, Appendicectomy, and Circumcision in R.A.F. Recruits

Type of School	Type of District	England												Scotland												Wales												Great Britain											
		Circumcision				Tonsillectomy				Appendicectomy				Total Examined				Circumcision				Tonsillectomy				Appendicectomy				Total Examined				Circumcision				Tonsillectomy				Appendicectomy				Total Examined			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%								
Elementary	Urban	221	35.3	190	30.4	47	7.5	59	11	18.6	18	30.5	6	10.2	22	5	22.7	6	27.3	4	18.2	707	237	33.5	214	30.3	57	8.1	894	293	32.8	258	28.9	75	8.4	187	56	29.9	44	23.5	18	9.6							
	Rural	46	30.5	33	21.9	13	8.6	26	6	23.1	8	30.8	4	15.4	10	4	40.0	3	30.0	1	10.0	187	56	29.9	44	23.5	18	9.6	894	293	32.8	258	28.9	75	8.4	187	56	29.9	44	23.5	18	9.6							
	Total	267	34.4	223	28.7	60	7.7	85	17	20.0	26	30.6	10	11.8	32	9	28.1	9	28.1	5	15.6	894	293	32.8	258	28.9	75	8.4	1,138	400	35.1	379	33.3	94	8.3	296	94	31.8	79	26.7	27	9.1							
Grammar	Urban	119	37.4	123	38.7	28	8.8	41	15	36.6	17	41.5	0	0.0	24	8	33.3	7	29.2	3	12.5	383	142	37.1	147	38.4	31	8.1	478	175	36.6	177	37.0	39	8.2	95	33	34.7	30	31.6	8	8.4							
	Rural	24	32.0	24	32.0	7	9.3	7	2	28.6	2	28.6	0	0.0	13	7	53.8	4	30.8	1	7.7	478	175	36.6	177	37.0	39	8.2	478	175	36.6	177	37.0	39	8.2	95	33	34.7	30	31.6	8	8.4							
	Total	143	36.4	147	37.4	35	8.9	48	17	35.4	19	39.6	0	0.0	37	15	40.5	11	29.7	4	10.8	478	175	36.6	177	37.0	39	8.2	478	175	36.6	177	37.0	39	8.2	95	33	34.7	30	31.6	8	8.4							
Public	Urban	40	47.5	14	35.0	5	12.5	4	1	25.0	2	50.0	1	25.0	4	1	25.0	2	50.0	0	0.0	48	21	43.7	18	37.5	6	12.5	1,138	400	35.1	379	33.3	94	8.3	14	14.0	7	7.1	14	14.0								
	Rural	5	35.7	5	35.7	1	7.1	0	0	Ind	0	Ind	0	Ind	0	0	Ind	0	Ind	0	Ind	14	5	35.7	5	35.7	1	7.1	1,138	400	35.1	379	33.3	94	8.3	14	14.0	7	7.1	14	14.0								
	Total	54	44.4	19	35.2	6	11.1	4	1	25.0	2	50.0	1	25.0	4	1	25.0	2	50.0	0	0.0	62	26	41.9	23	37.1	7	11.3	1,138	400	35.1	379	33.3	94	8.3	14	14.0	7	7.1	14	14.0								
All schools	Urban	984	35.9	327	33.2	80	8.1	104	27	26.0	37	35.6	7	6.7	50	14	28.0	15	30.0	7	14.0	1,138	400	35.1	379	33.3	94	8.3	1,434	494	34.4	458	31.9	121	8.4	296	94	31.8	79	26.7	27	9.1							
	Rural	240	31.2	62	25.8	21	8.8	33	8	24.2	10	30.3	4	12.1	23	11	47.8	7	30.4	2	8.7	1,434	494	34.4	458	31.9	121	8.4	1,434	494	34.4	458	31.9	121	8.4	296	94	31.8	79	26.7									
	Total	1,224	35.5	389	31.8	101	8.3	137	35	25.5	47	34.3	11	8.0	73	25	34.2	22	30.1	9	12.3	1,434	494	34.4	458	31.9	121	8.4	1,434	494	34.4	458	31.9	121	8.4	296	94	31.8	79	26.7									

Ind = Indeterminate.

Of the 1,434 recruits, 1,224 (85.3%) came from England, 137 (9.6%) from Scotland, and 73 (5.1%) from Wales. 894 (62.3%) had attended elementary schools, 478 (33.4%) grammar schools, and 62 (4.3%) public schools. 1,138 (79.4%) were from urban areas, and 296 from rural areas (defined as having a population of fewer than 4,000).

The number of recruits, and the percentages, from each type of school in each of the areas in all three countries, are shown in Table I. The percentages from urban and rural areas correspond closely with those given in the Registrar-General's annual report.

It should be noted that the recruits examined were all at school at the time of the evacuation of schoolchildren from vulnerable areas during the last war. It was found, however, that, while movement between England and Wales was not uncommon, very little migration took place either way across the Scottish border. Many of the recruits who were otherwise from urban areas spent the war years in rural districts. For this reason little emphasis has been placed on urban-rural differences, and between England and Wales; nor has England been divided into smaller areas.

Incidence of the Operations.—Table III shows the incidence of the three operations in all the various groups. Altogether 458 (31.9%) of the recruits had had a tonsillectomy, 494 (34.4%) a circumcision, and 121 (8.4%) an appendicectomy.

Of these, 161 (11.2%) had had both tonsillectomy and circumcision; 20 (1.4%) both tonsillectomy and appendicectomy; and 25 (1.7%) both circumcision and appendicectomy. A further 25 (1.7%) had had all three operations.

Circumcision

34.4% of the recruits were circumcised. Less than 1.5% of recruits were Jewish. The number of others who might have been circumcised for religious reasons is probably infinitesimal.

In the national sample of 4-year-olds, all born in 1946, analysed by MacCarthy *et al.* (1952), 24% had been circumcised, three-quarters of the operations having been carried out in the first six months of life. It is not likely that many of the recruits would have been circumcised after the age of 4 years. Therefore if the incidence of circumcision among them is representative of the incidence in the whole country for this age group, we may assume that there has been a marked decline in the incidence of this operation between the early 1930's and the period just after the war. It would be interesting to know if this decline has continued.

There is an increasing frequency in the numbers circumcised as one ascends the scale of schools. This agrees with MacCarthy's findings of a higher incidence as one ascends the social groups.

The most interesting variation in the incidence is the low percentage of recruits from Scotland who had been circumcised, and when this is compared with the incidence among the English and Welsh the difference is statistically significant ($\chi^2=4.888$, P is between 0.05 and 0.02).* The incidence is especially low among the recruits from Scottish elementary schools (20%). Of the recruits from grammar and public schools—allowing for the small number of them seen in the survey—the incidence of circumcision was not appreciably less among the Scots than among the English or Welsh.

In addition to those circumcised, 96 (6.7%) had a foreskin which covered half or less of the glans. These were probably congenital variations of the normal, though some might have been incompletely operated on. None were included in the totals of those circumcised.

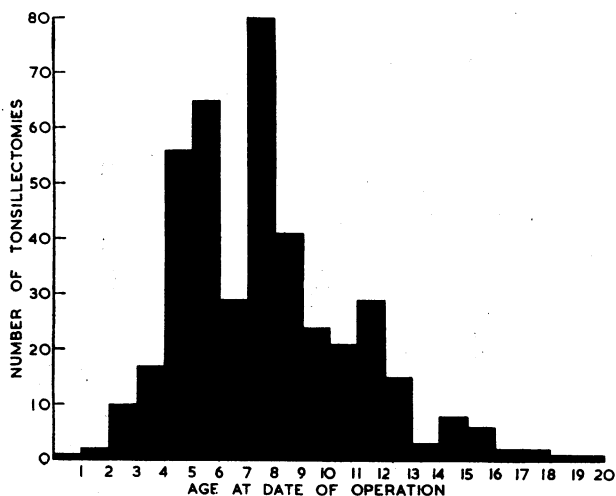
Tonsillectomy

A tonsillectomy had been performed on 31.9% of the recruits. Six said they had undergone the operation twice. In contrast to circumcision, there was no significant difference in the incidence in the three countries, though it was slightly higher in Scotland (34.3%) than in England

*Yates's correction for discontinuity has been applied to this and all the other calculations of χ^2 .

(31.8%) or Wales (30.1%). The incidence of tonsillectomy is, however, significantly lower among boys of elementary schools (28.9%) than among those from grammar and public schools (together 37.0%) ($\chi^2=9.985$, P is between 0.01 and 0.001). On the other hand, none of the spectacular differences in the incidence that others have commented on (Illingworth, 1950; Bransby, 1952; Glover, 1948, 1950) were seen in this survey. The percentage of public-school boys who had had their tonsils operated on (37.1%) was considerably less than that found by the Schools Epidemics Committee (1938), who found incidences varying from 50.4% to 56.5% between 1930 and 1934. This difference might be explained, in part, by the fact that the public-school boys in my survey were probably not truly representative of their class.

Glover (1948) estimated, from the returns of tonsil operations published by the Ministry of Education, that in England in 1948, 20% of secondary-school children left school tonsillectomized. (As the Ministry have returns only for those children of school age—5 to 14—he made an allowance for those operations performed before the age of 5.) In the present survey the rate among English elementary-school boys was 28.7%; for all England it was 31.8%. Glover noted that the 1948 tonsillectomy rate was the highest it had been since the peak years of 1929 to 1931. The recruits in this series were all born too late to have been at school during that peak period, and by 1948 those still at school were aged 12 years or more, at which time the operation is not often performed (see Chart). Further-



Analysis of age of 413 R.A.F. recruits at date of tonsillectomy.

more, the bulk of tonsillectomies in this survey were carried out in the war years 1939 to 1945, which were generally regarded as an off-season for this operation. It appears that the tonsils have been removed from almost 50% more English elementary-school boys than Glover calculated.

This discrepancy can be accounted for by the fact that Glover had cognizance only of those operations actually notified to the Ministry of Education. Prior to the 1944 Education Act, local education authorities were not compelled to provide for tonsillectomies; and those that did would not include in their returns to the Ministry any operations carried out "privately"—that is, arranged directly by the parent, and done at home or at voluntary hospitals (Scott, 1955). I think that this anomaly in the returns may also account for some of the variations in the incidence from town to town that Glover has noted.

Appendicectomy

The appendix had been removed from 8.4% of the recruits. There were no statistical differences in the incidences of this operation among the various groups, nor did the variations in the incidence follow any particular

pattern. Generally speaking, the incidence was highest among the recruits from Wales as compared with those from the other two countries; among those from public schools in comparison with those from elementary and grammar schools; and among those from rural areas as against those from urban areas.

It is interesting to note, among the 48 from Scottish grammar schools, the complete absence of recruits who had had their appendix removed.

Age at Time of Operation

Circumcision.—The recruits were not asked to state the age at which this operation had been performed.

Tonsillectomy.—There is a remarkable similarity in the age distribution of this operation in all the three countries, in both urban and rural areas, and in each of the three types of school (Table II, p. 20). There is a peak in the incidence from the age of 4 to the age of 8 years (see Chart). Excluding the 45 (9.8%) who could not remember the age of their operation, nearly two-thirds of those operated on (271 out of 413) had had their tonsils removed in this five-year period. The most common age for this operation was 7, which is a little later than Rolleston's (1939) finding of the highest incidence at the age of 5. In the present survey the age of 5 took second place. In all the groups there is a drop in the number of operations performed at the age of 6, though Glover (1948) thought that this was the time when most tonsillectomies were performed. There is no obvious reason for this drop. It is reasonable to assume that the peak period of operation is associated with the physiological hypertrophy of the tonsils that occurs from the fourth to the eighth years.

Appendicectomy.—There are no marked regional or social differences in the age distribution of appendicectomies (Table IV). More were found in the second decade than

TABLE IV.—Ages at Date of Appendicectomy. Urban and Rural Districts

	Type of District	Age Last Birthday at Date of Appendicectomy					Total
		0-4	5-9	10-14	15 and Over	Un-known	
<i>Analysis by Countries</i>							
England	Urban	1	8	26	37	8	80
	Rural	—	1	10	8	2	21
	Total	1	9	36	45	10	101
Scotland	Urban	—	2	2	3	—	7
	Rural	—	—	1	2	1	4
	Total	—	2	3	5	1	11
Wales	Urban	—	1	3	2	1	7
	Rural	1	—	—	1	—	2
	Total	1	1	3	3	1	9
<i>Analysis by Schools</i>							
Elementary	Urban	—	4	22	28	3	57
	Rural	1	—	5	10	2	18
	Total	1	4	27	38	5	75
Grammar	Urban	1	5	7	14	4	31
	Rural	—	1	5	1	1	8
	Total	1	6	12	15	5	39
Public	Urban	—	2	2	—	2	6
	Rural	—	—	1	—	—	1
	Total	—	2	3	—	2	7
Total	Urban	1	11	31	42	9	94
	Rural	1	1	11	11	3	27
	Total	2	12	42	53	12	121

in the first. Ascroft (1954) found that more than 50% of the appendicectomies performed in a leading London teaching hospital were carried out between the ages of 15 and 35, and this operation is not uncommonly performed during a man's Service career (*British Medical Journal*, 1955). The figures in the present survey are probably leading up to the peak of this operation, in contrast to the other two operations, which are hazards of a pre-national service age group.

Discussion

The most interesting feature of the analysis of the circumcisions was the high percentage (34.4%) found in Great Britain as a whole. That more than one boy in three born between 1930 and 1936 should have been circumcised is ample testimony to the popularity of this operation, though evidence has been offered to show that the popularity is waning. It may now be generally regarded that the indications for circumcision are mainly social rather than medical, though I would disagree with Gairdner (1949) with regard to the virtues of retaining the foreskin. The present survey, however, covers a period when adherent prepuces were regarded as the cause of numerous ills, and a large number of the operations may have been performed on medical advice rather than at the instigation of the parents. The low incidence found among the recruits from Scottish elementary schools contrasts with the approximately similar proportions found in recruits from grammar and public schools in all the three countries, and probably reflects an absence of the social rather than the medical indications.

The high incidence of tonsillectomy in Great Britain has often been commented on, and it is usual to criticize the excessive number of tonsillectomies performed. The fact that the timing of most of the operations coincides with the period of physiological hypertrophy of the tonsils supports this view. Chronic upper respiratory infections are often considered a sign of poverty, being, it is alleged, due to poor diet and housing. Yet the incidence of tonsillectomy is significantly lower among those who had attended elementary schools, who may be regarded as representative of the lower-income groups.

The incidence, admittedly, is consistently lower among those recruits from rural areas (comparing the rural recruits with the urban recruits, the difference in incidence is statistically significant— $\chi^2=4.429$, P is between 0.05 and 0.02). This is no doubt related in part to the relative decrease of upper respiratory infections in rural areas, but it is probable that differences in the facilities for tonsillectomy played a large part in the variations in the incidence.

Of the appendicectomies performed, it was not known which appendices were acutely inflamed, which were chronically inflamed, which just grumbled, and which were removed when, at an operation for a suspected acute appendicitis, no cause for the symptoms could be found. The lower incidence among English elementary-school boys, for example, suggests a more conservative approach rather than a variation in the number of acutely inflamed appendices.

Summary

Of 1,434 R.A.F. recruits (all of them born between 1930 and 1936) examined, 458 (31.9%) had had a tonsillectomy, 494 (34.4%) had had a circumcision, and 121 (8.4%) had had an appendicectomy.

The ages of operation for both tonsillectomy and appendicectomy are recorded.

The incidence of all three operations was found to be highest among those from public schools.

The incidence of circumcision is much lower in Scotland than in the rest of Great Britain, especially among those who had attended elementary schools.

There is a significantly lower incidence of tonsillectomy among the recruits from elementary schools.

Nearly two-thirds of the tonsillectomies had been performed in the five years between the fourth and ninth birthdays. The most popular age for tonsillectomy is 7.

None of the variations in the incidence of appendicectomy are significant.

The causes of some of these differences are discussed.

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PYREXIA OF UNKNOWN ORIGIN

STUDY OF A SERIES OF CASES

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The pattern of eventual diagnoses in any group of patients whose illnesses began with pyrexia of obscure origin differs from place to place and from time to time. In the United States of America, Hamman and Wainwright (1936) and Keefer (1939) have published studies; and Böttiger (1953) has reviewed a series from Sweden.

A series of such patients admitted to the Radcliffe Infirmary, Oxford, has been studied with two main objects: firstly, of discerning the pattern of eventual diagnoses particular to this region since the introduction of antibiotic therapy; and, secondly, of discovering the relative value of different simple investigations in assessing the likelihood of the more important diagnoses.

Previous studies have concentrated largely on patients discharged from hospital still labelled "pyrexia of unknown origin" and have been follow-up reports of these patients. It was considered more helpful, however, to study those patients so labelled on admission. In this way many short-lived fevers were expected to be included; but there was the advantage of a larger percentage of confirmed eventual diagnoses. Furthermore, the study was thereby concerned with a much more pressing and everyday problem.

Definitions

The definition of a case of pyrexia of unknown origin was taken as a patient of the age of 14 or more who presented with fever as the dominant sign, who after the initial examination and chest x-ray examination was considered by the registrar and house-physician to have insufficient localizing symptoms and signs to be diagnosed with any confidence, and whom it was proposed to subject to the customary initial investigations of such patients—urine and blood cultures and examinations, Paul-Bunnell test, salmonella and brucella agglutinations. All such cases admitted between January 1, 1953, and October 1, 1955, to the medical wards of the Radcliffe Infirmary were considered.