The analysis of the series demonstrates the importance of early diagnosis of carcinoma of the cervix, the extent of the disease being of greater importance in the prognosis than any other factor. The results of operation on cases in Stages 1 and 2 are slightly better than those of radium alone, but it will be noticed that the immediate mortality of radium treatment is almost negligible.

REFERENCES

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ACTIVE IMMUNIZATION AGAINST DIPHTHERIA

RELATIVE VALUES OF TWO METHODS AS SHOWN BY SUBSEQUENT SCHICK TESTING

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Active immunization against diphtheria by the "one-shot" method has aroused much controversy during the last year or two, and the comparison of results obtained by this method and those obtained in the same community by three injections of the previously more used preparations is of importance. The following review shows the results obtained in Southampton during the last two years.

Two Years' Experience in Southampton

Southampton is a town of 178,000 inhabitants and possesses both industrial and residential characters. Immunization in Southampton was begun during a period of epidemic prevalence of diphtheria. The initial response to take advantage of the facilities offered was too great to allow of preliminary Schick testing in any but too few to enable us to arrive at reliable conclusions as to the Schick negative rate, but experience in other towns has shown that the large majority of children under 10 years are positive reactors.

Since immunization began the materials we have used have been toxoid-antitoxin floccules (Burroughs Wellcome and Co.; Evans Sons Lescher and Webb) and alum-precipitated toxoid (Parke Davis and Co.). Owing to a shortage of supply of floccules we were for a short time compelled to use toxoid-antitoxin mixture (Burroughs Wellcome and Co.) as a substitute. The dose of T.A.F. and T.A.M. was 1 c.cm. at fortnightly intervals for three injections. The dose of A.P.T. was 0.5 c.cm.—one injection only.

This review compares the results, as shown by subsequent Schick testing, between the three injections of antigen and the "one-shot" method. The actual inoculations and Schick testing were carried out at elementary schools, child welfare centres, and special clinics. The Schick testing was carried out by the same group of medical officers throughout, so that discrepancies in the reading of Schick tests can be discounted.

Although children of all ages over 12 months were treated, alum-precipitated toxoid was employed only in those under 10 years in view of reported severe reactions in older children. In order to make the findings entirely comparable, Tables I and II refer to children under 10.

Comparison of Methods

It was felt to be important to know whether one method attained immunity more rapidly than the other, and consequently the results are tabulated to show percentages of failures in immunity establishment at various periods up to twelve months after the last inoculation. It should be noted that the various groups of children were not retested; neither, however, were they in any way selected, so that each group is comparable with the others and forms a fair sample of the general community at the selected age group.

TABLE I.—Results of Schick Test in Children under 10 at the End of Certain Periods following Inoculation with T.A.F. (T.A.M.) with Percentages

At end of... .. {	2 Months	3 Months	4-6 Months	7-12 Months	Total
Number of children tested ...	342	357	671	2,303	3,673
Number of children Schick positive	6	7	5	15	33
Percentage of children Schick positive	1.75	1.96	0.75	0.65	0.9

TABLE II.—Result of Schick Test in Children under 10 at the End of Certain Periods following Inoculation with A.P.T. with Percentages

At end of... .. {	2 Months	3 Months	4-6 Months	7-12 Months	Total
Number of children tested ...	190	157	248	230	825
Number of children Schick positive	18	20	39	43	120
Percentage of children Schick positive	9.47	12.74	15.76	18.7	14.55

The above tables indicate most strongly that the three-injection method of T.A.F. (T.A.M.) gives much more certain immunity than does the "one-shot" method with A.P.T., as judged by subsequent Schick testing.

The figures would also appear to show that in a number of children immunity from three injections of T.A.F. (T.A.M.) may take longer than three months to develop, though the vast majority will have acquired immunity at the end of two months. The children who show delayed development of immunity may be those who for various reasons—for example, until recently domiciled in rural districts—have previously avoided contact with infection.

With regard to the "one-shot" method as shown in Table II the figures indicate the possibility of a short-lived complete immunity in a considerable number of children. This, however, cannot be taken as a definite conclusion as no group of children has yet been retested, but it agrees with Volk's suggestion of a possibly high Schick reversion rate.

Comparative Review of Older Age Groups

TABLE III.—Result of Schick Test in Children over 10 at the End of Certain Periods following Inoculation with T.A.F. (T.A.M.) with Percentages.

At end of... .. {	2 Months	3 Months	4-6 Months	7-12 Months	Total
Number of children tested ...	201	192	552	1,055	2,000
Number of children Schick positive	4	4	10	19	37
Percentage of children Schick positive	2	2.08	1.81	1.8	1.85

Comparison with Table I indicates a slightly increased difficulty in establishing immunity in older children. A small number of children over 10 years received "one-shot" inoculation of 0.5 c.cm. A.P.T. The total number so treated who were subjected to Schick test more than two months subsequently was 102, and this number

is considered too small to be subdivided as in the preceding tables. The number of positive reactors in the group subsequent to inoculation was thirteen, which gives a percentage of 12.74. For all practical purposes, then, the general conclusions with regard to the relative merits of the two methods of immunization under discussion are the same for children of all ages.

Immunization against diphtheria began in Southampton in February, 1934. From that date until the end of May, 1936, 22.1 per cent. of the population under 16 years of age had been immunized, though the majority had not yet been subjected to subsequent Schick testing. During the period from June, 1934, till May, 1936, inclusive, 1,180 children under 16 were notified as suffering from diphtheria. Of these forty-four, or 3.7 per cent., had been actively immunized against the disease or had been found to be immune.

The incidence rate of diphtheria during the period under discussion among children under 16 years of age was 26.8 per 1,000. Among the children of the same age during this same period who had received a full immunizing course, with or without subsequent Schick testing, the incidence rate was 4.5 per 1,000.

The following table gives clinical and bacteriological particulars concerning the forty-four children notified as suffering from diphtheria after immunization. It will be seen that the severe cases among them had not had the Schick test performed subsequent to immunization, and it is such occurrence which is liable to bring disrepute upon the measure.

TABLE IV.—*Occurrences of Diphtheria in Immunized Children*

	Number	Clinical Signs				Bacteriological Signs		
		None	Mild	Severe	Fatal	Original Swab + for K.L.R.	Subsequent Swabs + for K.L.R.	Subsequent Swabs Negative
Schick test negative (no immunizing course given).	3	2	1	—	—	3	—	3
3 injections T.A.F., subsequent Schick test negative	8	4	4	—	—	8	3	5
1 injection A.P.T., subsequent Schick test negative	3	2	1	—	—	3	2	1
3 injections T.A.F., no subsequent Schick test	19	8	10	1	—	19	8	11
1 injection A.P.T., no subsequent Schick test	11	4	5	2	—	11	6	5
Total	44	20	21	3	—	44	19	25

Conclusions

The "one-shot" method of immunization with A.P.T. is much less certain in result than the three injections of T.A.F. and T.A.M. As the "one-shot" method is in considerable favour with general practitioners the uncertainty of its results should be clearly realized. A considerable Schick reversion rate is probable after the "one-shot" method with A.P.T.

Severe diphtheria is possible after either method of immunization, but no severe cases have occurred in a large series where immunity was confirmed by subsequent Schick testing. Schick testing subsequent to immunization is essential for the reputation of either method.

Research on the chemistry and physics of glass surfaces to aid in the development of scientific apparatus and ophthalmic instruments has been started at the Mellon Institute of Industrial Research, University of Pittsburgh, by the Bausch and Lomb Optical Company of Rochester, New York. The first studies will be concerned with the effects of environmental factors on the durability of the various types of glass used in optical instruments. Dr. Frank L. Jones will be in charge of these investigations.

CYSTS OF THE MESENTERY

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Our interest in mesenteric cysts was stimulated by a case of unusual interest which came under our care, and a description of it, given below, adds yet another to approximately five hundred already recorded. Benevieni's account of this condition discovered at necropsy in 1507 is the earliest we are able to trace.

The surgical adventure which we attempt to describe here had one prominent feature in common with those described elsewhere—namely, misdiagnosis. In other respects it presented a series of clinical and pathological surprises sufficiently striking to justify an attempt to bring them to the notice of our profession.

Case Report

A male aged 21 years, an apprentice to a shipping firm, was admitted to the Bristol Royal Infirmary on October 26th, 1935, and the following history was obtained.

Four days before admission he noticed vague generalized abdominal pains which, intermittent at first, gradually became more persistent and colicky in character and localized to the right lower abdomen.

Nausea and anorexia were present, but no vomiting, and the bowels were open normally. He gave no history of any previous attack, and was unable to recall any serious illness, though his work necessitated continuous service in tropical climates.

On examination we found his temperature 100° F., pulse rate 84, and the tongue dry and coated with a thick white fur. There was generalized abdominal tenderness and rigidity, most marked in the right iliac fossa, with guarding of the right rectus abdominis. Rectal examination elicited tenderness to the left of the recto-genital pouch, but no localized lump. There were no other positive signs.

A diagnosis of acute appendicitis was made and immediate operation advised, to which the patient consented.

OPERATION

The abdomen was opened through a right gridiron incision; the appendix appeared slightly inflamed, fibrous, and adherent to surrounding structures; it was removed. Multiple enlarged lymphatic nodes in the mesentery were thought to be due to the inflamed condition of the appendix, but in an attempt to trace the extent of these a hard calcified gland the size of a large walnut was discovered. As this was considered to be a potential source of abdominal pain it was excised.

Further exploration revealed the presence of a cystic tumour the size of a tangerine orange, suspended from the mesentery by a pedicle which was twisted, twice rotated in an anticlockwise direction. The pedicle was ligatured and the cyst removed; it was intensely congested, and contained a chocolate-coloured fluid. A second and larger cyst was then found, irremovable owing to the wide attachment at its base, aspiration of the chyle from this revealing the fact that it was multilocular.

After evacuation and rupture of the loculi into the main cystic cavity, marsupialization was carried out through a small incision in the left paramedian position, just above the umbilicus. In the absence of any further lesion the original incision was closed in the customary manner.

SUBSEQUENT PROGRESS

Two ounces of chylous fluid drained from the marsupial pouch and the wound healed rapidly. Recovery was uneventful, and the patient was allowed up on the sixteenth day.