

TABLE OF 15 CASES OF DIPHTHERIA TREATED WITH SALINE INFUSIONS.

Case.	Age.	Antitoxin.	Saline infusion.		Remarks on case.	Complications and sequelæ.	Number of days in hospital.	Result.
			Injec-tions.	Amount.				
1	5½ years.	12,000 units.	4	20 ounces.	Great fœtor with spreading mem-brane.	Suppression of the urine.	3	Death.
2	4 "	9,000 "	3	15 "	Profuse epistaxis.	Scarlet fever 18 days after admission.	98	Recovery
3	4½ "	15,000 "	2	25 "	Very severe attack with "bull neck."	Macular rash on the fifth day; paresis of the lower limbs.	73	Recovery.
4	1½ "	12,000 "	3	26 "	Extreme restlessness; sleep after infusion.	Abscess on the seventh day; rash on the third day; cardiac vomiting and failure.	17	Death.
5	5 "	15,000 "	4	36 "	Much discoloured membrane; great swelling.	—	Transferred to the Conva-lescent Hos-pital.	Recovery.
6	2 "	9,000 "	3	20 "	Hæmorrhagic.	—	2	Death.
	5 "	18,000 "	2	20 "	—	—	3	Death.
8	2½ "	15,000 "	1	9 "	—	—	1	Death.
9	4 "	12,000 "	2	22 "	Profuse epistaxis continuing till death.	—	7	Death.
10	9 "	15,000 "	2	24 "	Great restlessness relieved by infu-sion.	Broncho-pneumonia on the sixth day.	8	Death.
11	7 months.	9,000 "	2	6 "	Faucial and nasal.	—	52	Recovery.
12	3 years.	15,000 "	3	20 "	Much membrane; severe continuous epistaxis.	Cardiac vomiting from the fifth to the eleventh day; diaphragmatic and laryn-geal paralysis on the thirtieth day. Paresis of the lower limbs.	63	Recovery.
13	4 "	9,000 "	3	35 "	Much membrane spreading; great fœtor.	Ocular paralysis on the thirty-fourth day.	Transferred to the Con-va-lescent Hos-pital.	Recovery.
14	2 "	9,000 "	4	24 "	Spreading dis-coloured mem-brane.	Rash on the second day; general paresis.	62	Recovery.
15*	6 "	15,000 "	2	23 "	Much membrane; fœtor; delirium; hæmorrhagic.	Abscess on the eighth day. Cardiac vomiting from the thirty-second to the forty-first day. Diaphragmatic paralysis on the thirty-fifth day; general paresis.	98	Recovery.

* This patient was under the care of my colleague, Dr. Densham, after the first week. During the vomiting stage she was given saline infusions on several occasions with marked benefit.

15 patients seven died, while eight recovered after a con-
valescence more or less eventful. Of the seven fatal cases
six patients died during the acute stage. In three cases the
patients developed the usual symptoms of heart failure;
one patient died on the seventeenth day, the other two
recovering after a prolonged period, during which paralysis
of the diaphragm occurred.

Of course no definite conclusion may be drawn from the
results of only 15 cases, although these were chosen from a
large number of admissions as being of the severest type and
therefore most likely to develop cardiac paralysis. Never-
theless this treatment appears so far to have some influence
in diminishing both the frequency of onset of symptoms of
heart failure and their severity when they do occur. Further
experience is, however, necessary before one may dogmatise.

As in the case of antitoxin treatment the results will prob-
ably be the better the earlier the patient is admitted to
hospital, and on this account I have endeavoured in all
cases to complete the infusion by the second day after
admission.

Two of the patients developed an abscess at the site of
injection. This, though a high rate, must be considered, I
think, as more or less accidental, and in dealing with a large
number of cases the occurrence of an abscess after saline
infusion would be probably not more frequent than is the
case after injection of antitoxin alone. In neither instance
did any ill effect follow and after evacuation of the pus
healing rapidly took place.

My best thanks are due to Dr. Birdwood for permission to
publish this paper and to my colleague, Dr. W. A. Densham,
for permission to make use of Case 15.

Hither Green, S.E.

THE VALUE OF ANTI-STREPTOCOCCIC
SERUM.

BY GERALD S. WALTON, M.B., C.M. EDIN.

A RECENT number of THE LANCET contains some deprecia-
tory remarks about anti-streptococcic serum by Dr. Ranken
Lyle.¹ Scepticism is a virtue, but it may be carried to an
extreme, and what I fear is that some medical men after
reading Dr. Lyle's paper may put its scepticism into practice
and never use the serum again. I venture to think that
such ultra-rationalism will every now and then meet with
its own reward in the shape of a lost case. I have not
the slightest hesitation in saying that in the two cases
which I am about to describe the result was no mere
coincidence, such as Dr. Lyle wishes to suggest, but that it
was a genuine remedial action on the part of the serum only.

CASE 1.—A married woman, aged 20 years, a primipara.
who had been anæmic and ill-looking even before the birth of
her child, was confined easily on August 10th, 1900. There
were shock and depression of spirits and slight rise in the
pulse and the temperature almost from the start. There was
sepsis from the third day, when a small foetid clot was
passed. The milk was suppressed and the infant had to be
weaned. The lochia were much too small in amount and
were rather putrid, and the womb was flabby and tender.
By the fifth day the temperature was 101·5° F., the pulse
was 130, and the patient was weak and yellowish in colour.

¹ "Puerperal Sepsis," THE LANCET, Sept. 29th, 1900, p. 925.

The case was notified. 10 cubic centimetres of anti-streptococcic serum were injected. The injection was followed by a slight reaction, and on the next morning there was a distinct though slight improvement in the pulse, in the temperature, and in the general condition, which was dissipated, however, by the evening of the same day. A further dose of 10 cubic centimetres of the serum was injected, and again there was a slight improvement, which occurred after drowsiness, diaphoresis, and vomiting. This time the improvement was maintained for two or three days and the temperature dropped to 100°. A relapse then set in, and by the sixteenth day the temperature gradually went up to 103°. On the next morning 10 cubic centimetres of the serum were injected into the right arm, the temperature then being 101.5°. In the evening a pleuritic catch was complained of and was detected in the right lung and a little morphia was administered. The patient's temperature was then 102° and it was nearly the same on the next morning when I gave her 12 grains of sodium salicylate. This caused profuse sweating and a rich crop of sudamina and brought down the temperature to 99.4°. The patient was then put on a mixture containing sodium salicylate and she was convalescent by Sept. 4th.

CASE 2.—The patient was a woman, aged 30 years, who was, curiously enough, of the same name as the patient in Case 1 but was not in any way related to her. She had been subject to "quinsy" and she imagined that she had another attack after exposure to cold and the history of the case and the appearance of the left tonsil seemed to indicate that she was right. She was very weak. On the second day of my attendance her temperature was 100° F. and her pulse was 108. There was a nasty dark slough which involved the tonsil, the uvula, and the neighbouring parts. The patient's general condition seemed precarious in the extreme and a swab and a bit of the slough were sent to the Jenner Institute of Preventive Medicine for examination; but without waiting for the report, as I judged the case to be septic if not diphtheritic, I injected 10 cubic centimetres of anti-streptococcic serum. Reaction occurred, and in the afternoon the pulse and general condition were decidedly improved although the temperature was now 101°. On the next morning the patient seemed to be quite a different woman. Her temperature was normal, her pulse was 88 and of good strength, and her general condition was vastly improved. A report from the Jenner Institute came that day that diphtheritic bacilli had been found in the materials submitted for examination and she was consequently removed to the isolation hospital, where she continued to make satisfactory progress.

The serum used on all these occasions was supplied by Messrs. Burroughs and Wellcome. It is true that the patient in Case 1 eventually got well on sodium salicylate and that there was apparently a connexion between the third injection of anti-streptococcic serum and the smart attack of dry pleurisy which occurred, yet I was quite satisfied with the effect of the serum on the fifth and sixth days and I blame myself for not using it again till the sixteenth day. With regard to Case 2 Dr. D. G. Halsted, who was kind enough to see the woman with me, will bear me out that the effect of the injection was very remarkable. Even allowing that she was left in a weak state and that after leaving my hands she was further treated with anti-diphtheritic serum for some days, I maintain that I gave her a magnificent start, without which the case might have terminated very differently. Diphtheria in most cases is probably a mixed infection, and I would suggest that in all cases a preliminary dose of anti-streptococcic serum should be given. I cannot think it judicious that such a powerful remedy—call it "tonic" if you will—should be lightly and flippantly cast aside.

Sutton, Surrey.

HOSPITAL SATURDAY.—Hospital Saturday was observed in London on Saturday for the twenty-seventh successive year, and special collections were made in many thousands of business houses and workshops on behalf of the hospitals and dispensaries. The method of street collection has been abandoned, but the regular "penny-a-week" collection in the industrial establishments will be continued until the end of December, by which time it is hoped that the total for the year will not fall short of that raised in 1899—viz., £20,013. The result of Saturday's collection will be announced at the annual general meeting of the association to be held at the Mansion House on Oct. 27th.

Clinical Notes :

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ANTHRAX; EXCISION OF PUSTULE; RECOVERY.

BY EDWARD C. BOUSFIELD, L.R.C.P. LOND., M.R.C.S. ENG.,
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I AM reminded by the case narrated by Dr. E. F. M. Neave in THE LANCET of Oct. 6th, p. 1012, of a somewhat similar one which occurred in my own practice.

I was consulted at 2 P.M. on Oct. 22nd, 1898, by a man whose business involved the handling of imported hides as received. He had upon his neck over the sterno-mastoid a swelling of a very suspicious appearance, dusky red, with a central depression surrounded by vesicles of small size, which he had noticed that morning for the first time. His temperature was above 102° F. and the appearances were altogether so unsatisfactory that I asked my friend Dr. C. Wenyon, who had seen several cases of anthrax in China, to see the case with me, and he was inclined to agree with my diagnosis. He did so fully on the following day, when the swelling had to some extent increased in size and the temperature had risen to 104°. The patient being fully aware of his danger and quite willing to submit to operation, I excised the pustule, cutting three-quarters of an inch wide of it all round, and removing everything down to the fascia. The whole wound was then thoroughly cauterised with pure phenol and left undisturbed till the slough separated. The temperature fell on the same evening to 99.4°, and was normal on the following day, after which recovery was uninterrupted. The serum contained a very few bacilli, quite like those of anthrax, but I have not even yet had time to examine the pustule. Apart, however, from its perfectly typical appearance, a drop of nearly five degrees in the temperature within six hours of its removal, and the fact that the patient remembered having had a pimple on his neck, which he had scratched with his nail whilst engaged in examining hides, seemed to render any doubt of the diagnosis untenable. It seems a pity that the same treatment was not tried in the case which suggested this note.

No remedy is known to have any certain effect in this disease, whilst it seems probable that the toxic symptoms, in the human subject at least, arise from absorption from a limited area, and the removal of the focus is *primâ facie* the treatment most likely to be effectual. In any similar case I should certainly do the same again, except that I should do it at once.

Old Kent-road, S.E.

A RARE CASE OF FRACTURE OF THE OS CALCIS BY MUSCULAR FORCE.

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A WOMAN, aged 57 years, stood on a Windsor chair to reach some china from a cupboard. She had the china in her hand and was turning round to place it on a table close by when she got too near the edge of the chair, which capsized, and she was thrown to the ground. As her weight was overbalancing the chair her left foot, while remaining in contact with the seat, was forcibly and suddenly flexed. She was wearing a pair of ordinary laced shoes at the time. On examination some hours after the accident there were pain up the back of the left leg and inability to extend the ankle. The tendo Achillis was felt ending in a hard moveable mass some five inches from the sole of the foot and between this mass and the os calcis was a considerable depression. It was evident that the os calcis had fractured, the tendon remaining intact. The fragments could not be approximated. I cut down on the seat of the fracture and found that a piece of os calcis of about the size of half a walnut and corresponding to the area of insertion of the tendon had been wrenched off and drawn upwards. This could now, under anaesthesia, be easily brought down and apposed to the