

eliminated a number of applicants for membership from the list of those eligible to election, because of authentic knowledge of such practice on their part.

The executive council went a step further than this, however, and considered the question in connection with some of those who are already members of the association. A number of members were dropped in order to increase the efficiency of the society. They were stricken from the list for various reasons; a few of them for the practice of fee-splitting and commission-giving.

A. T. MANN, Secretary, Minneapolis.

Transmission of Bubonic Plague

To the Editor:—In THE JOURNAL (December 24, 1910, p. 225S), in an abstract of a report on bubonic plague in California by an officer of the United States Public Health and Marine-Hospital Service, occurs the following:

The ground-squirrel is the reservoir of plague germs, but does not transmit the disease to human beings, but by its bite infects the rat, which in turn, acting as a germ-carrier, bites and infects a human being, who in due course comes down with bubonic plague.

The latter presumably then bites his fellow-men and thus passes the disease along, and this would argue the necessity for muzzling every person afflicted with plague! But, seriously, what has become of the rat-flea which recently figured so largely as an indispensable factor or link in the spread of this disease? And an answer to this question is required by what follows the above quotation, namely, "as all that is necessary to start a season of bubonic plague anywhere is an infected ground-squirrel or human being."

Is this orthodox teaching concerning the science of sanitation as applying to bubonic plague, or is it merely an instance of misquoting or bad reporting? For, if the latter, it is too serious to pass uncorrected.

GEORGE HOMAN, St. Louis.

[COMMENT:—The error was due to a mistake of the reporter. The sentence should read: "The ground-squirrel is the reservoir of plague germs, but does not transmit the disease to human beings. Squirrel-fleas transmit the plague germs to rats, and rat-fleas in turn bite and infect human beings."—Ed.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ACUTE THYROIDITIS

To the Editor:—I was very much interested in the report in THE JOURNAL (Nov. 12, 1910, p. 1732) of a case of acute thyroiditis, because of having encountered, a few years ago, my first and, so far, my only patient suffering from this condition, and because of the apparent rarity of the condition, the suddenness of onset, the difficulty of determining the etiology, at least in my patient. I cannot see valid reasons for attributing the thyroiditis, in the case of Drs. Lewis and O'Neill, to the infection of their patient from the horses suffering from epizootic. While it could not be disproved, I cannot but feel that it is possibly a coincidence, especially because of the rapid and complete recovery. My patient had a slight recurrence a few weeks later, which, I understand, may be expected in these cases. I did not see him in the second attack, which was mild, giving him but little trouble, he said.

Another thing which has impressed me is the slight mention of the condition in the literature, many of the text-books not referring to it at all. I am quite sure that the well-developed case of much severity, confronting for the first time the young practitioner who perhaps has never heard of the condition or has forgotten it, will occasion some serious and anxious thought on his part.

A German farmer, of good habits, aged 65, had been in his usual good health, doing no hard work, although still a very active man. On Aug. 9, 1904, he had gone to the elevator, some five or six miles from his home, and was returning shortly before noon in an open lumber wagon. When nearing home he suddenly noticed a sensation of pressure in the throat, increasing to choking, with dyspnea and dysphagia. Putting his hand to his neck, he found an immense tumor. He managed to get home and was brought immediately to my office. These symptoms came on very rapidly, reaching their acme, he says, in less than an hour. I saw him within two or two and a half hours of the onset.

The patient was somewhat nervous and excited, cyanotic, hoarse and suffering great difficulty in speaking, with great dyspnea and dysphagia. The thyroid gland was immensely enlarged, distended and distinctly outlined, the overlying skin flushed. He was put to bed and morphin and cathartics administered and an ice-bag applied

over the thyroid gland. The condition began to improve in a few hours and passed off in two or three days, with no trouble since, except as stated above. This patient has developed in the meantime cardiac symptoms, that is, within the last two or three years, apparently due to myocarditis.

I have talked with a friend in St. Louis who has encountered three or four cases of acute thyroiditis in his practice. One of the patients died in an attack; I think, a second attack.

I should like to hear from others and to have references to literature on this condition.

G. L. ARMSTRONG, M.D., Taylorville, Ill.

ANSWER.—Our correspondent reports a very interesting case, although perhaps some doubt may be thrown on the diagnosis of thyroiditis, inasmuch as swelling occurring so suddenly would suggest hemorrhage or some other cause than inflammation. Little is given in text-books on this subject and literature is scanty. The following are some of the principal articles on acute non-suppurative thyroiditis:

Kyle, D. B.: Simple Acute Thyroiditis with Report of Two Cases, *Ann. Otol., Rhinol. and Laryngol.*, May, 1900; abstr. in THE JOURNAL, July 21, 1900, p. 187.

Illoway, H.: Case of Acute Thyroiditis of Rheumatic Origin, *Ann. Otol., Rhinol. and Laryngol.*, May, 1900; abstr. in THE JOURNAL, July 21, 1900, p. 187.

Secord, E. R.: A Case of Acute Thyroiditis, *Canada Lancet*, February, 1903.

Garbini, G.: Acute Thyroiditis, *Arch. ital. di otol.*, 1903, xiv, No. 1.

Quervain, F. de: Acute, Non-Suppurative Thyroiditis, *Mitt. a. d. Grenzgeb. d. Med. u. Chir.*, 1905, xiii, Supplement: *Semaine méd.*, 1905, xxv, No. 44; abstr. in THE JOURNAL, Dec. 2, 1905, p. 1785.

Lublinski: Acute Iodin Intoxication and Acute Inflammation of the Thyroid, *Deutsch. med. Wchnschr.*, 1906, xxxii, No. 8; abstr. in THE JOURNAL, April 14, 1906, p. 1147.

Lamb, S. D.: Case of Acute Thyroiditis, *Washington Med. Ann.*, 1907-08, vi, 243.

Dunger, R.: Acute Non-Suppurating Thyroiditis, *München. med. Wchnschr.*, Sept. 8, 1908; abstr. in THE JOURNAL, Oct. 17, 1908, p. 1381.

Schwerin, H.: Acute Non-Suppurative Thyroiditis, *München. med. Wchnschr.*, Oct. 13, 1908; abstr. in THE JOURNAL, Nov. 21, 1908, p. 1326.

Lecène, P., and Metzger: Acute Thyroiditis in Puerperal Infection, *Ann. de Gynéc. et d'Obst.*, February, 1910; abstr. in THE JOURNAL, April 2, 1910, p. 1174.

Parisot, J.: Acute Thyroiditis and Cardiovascular Complications, *Presse méd.*, May 7, 1910; abstr. in THE JOURNAL, June 11, 1910, p. 2007.

Lewis, J. P., and O'Neill, B. J.: Acute Thyroiditis with Edema of the Glottis, THE JOURNAL, Nov. 12, 1910, p. 1732.

DOSE AND VALUE OF SALVARSAN AND OTHER ARSENIC COMPOUNDS

To the Editor:—Please answer the following questions:

1. What per cent. of arsenic does each of the following contain: arsenous acid; sodium arsenate; sodium cacodylate; salvarsan?
2. What is the maximum single dose, by mouth, of arsenous acid, sodium arsenate, sodium cacodylate?
3. What is the maximum single dose, hypodermically, of sodium cacodylate; salvarsan?
4. Would it not be possible to introduce into the system with sodium cacodylate as much arsenic as it is possible to do with salvarsan, and in as short a period of time and with as little or less danger to the patient? If so, what advantage has salvarsan over sodium cacodylate in the treatment of syphilis?

G. W. SHRIVER, Sistersville, W. Va.

ANSWER.—1. Arsenous acid (arsenic trioxid) contains 75.74 per cent. of arsenic; sodium arsenate (crystallized) contains 24.01 per cent. of arsenic; sodium cacodylate (crystallized) contains 35.64 per cent. of arsenic; salvarsan should contain 34.16 per cent. of arsenic.

2. The dose of arsenic trioxid is given as from 0.002 to 0.004 gm. (1/30 to 1/15 grain). It may be increased gradually as tolerated by the patient, and it is impossible to state the maximum dose that can be given, except that we know the fatal dose is as small as 2 grains, and probably 1 grain may be fatal in some patients. The compounds of arsenic acid, like sodium arsenate, are not so poisonous as those of arsenous acid, hence sodium arsenate can be given in larger doses. The dosage is stated to be 0.003 to 0.008 gm. (1/20 to 1/8 grain). The dose of sodium cacodylate is from 0.03 to 0.13 gm. (1/2 to 2 grains).

3. The maximum dose of sodium cacodylate, hypodermically, would appear to be 0.13 gm. (2 grains). According to the experiments of Dawes and Jackson (THE JOURNAL, June 22, 1907, page 2090), sodium cacodylate appears to have only a very slight toxic action. They found that 0.5 gm. did not kill a rabbit, while 0.8 gm. did. The toxic dose of salvarsan has been estimated to be 0.15 gm. per kilo, which would correspond to 10.5 gm. for a man weighing 70 kilo. The maximum dose of salvarsan may be put at 0.6 gm., although possibly more might be given without serious results. A dose above 0.6 would, however, be attended with risks.