

after wounding). The pus was thin and yellow with a few gas bubbles. Wounds opened up, Carrel's tubes with gauze inserted; foreign bodies not removed. Two days later was operated on again under ether; he was given pituitrin and one and a half pints of intravenous saline, causing great temporary improvement in the pulse. The right thigh was amputated about the junction of the upper third; it was attempted a little lower but there was much pus in the superficial fascia there. The sciatic nerve was infiltrated with novocain before section. Died several hours later.

Examination of amputated thigh: Showed coffee-coloured discoloration of the superficial fascia of the right thigh; the deep muscles were also infected as evidenced by gas bubbles and slight loss of tone, but the level of infection was about two inches below that of the superficial fascia; there were also small gas bubbles in the femoral sheath, and on opening the vein there were small gas bubbles mixed with the blood; the level of the gas bubbles in the sheath was also about two inches lower than the infection under the skin. The muscles below the knees were discoloured and soft, and exuded many gas bubbles on section. The left leg (examined within half an hour of death) showed coffee-coloured discoloration of the superficial tissues of the leg, with pus along, and at the bottom of, the several wounds; spreading up along muscle planes into the thigh.

Bacteriological examination: Films of pus from the left leg showed streptococci in very large numbers. Films from the right thigh and leg showed streptococci in very large numbers with large Gram-positive bacilli (morphologically *Bacillus aerogenes capsulatus*) in small numbers. Film from the blood of a vein in the arm; no organism seen. In spite of this death was thought to be due to septicæmia.

Comments: X-rays can only be relied upon to show coarse gas infection; fine bubbles are not evident. Superficial gas infection may not always show emphysema. Foreign bodies should be removed if possible, and the wound should be laid well open. Although there was no vomiting in this case, the feeble pulse was a warning.

The wounds had the odour of the post-mortem room.

(To be continued.)

Current Literature.

ITALY. Law of the 6th June, 1939, introducing compulsory vaccination against diphtheria.

Compulsory anti-diphtheritic vaccination is introduced throughout Italy for all children between the ages of 2 and 10 years. It will usually be performed at the same time as anti-smallpox vaccination and this latter procedure is deferred until the 2nd year of age. All children now attending school, as well as future entrants, must present a certificate of vaccination against diphtheria.

NEVILLE M. GOODMAN.

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GERMANY. Circular of the 20th March, 1939, of the Air Minister, concerning the abuse of alcohol and nicotine.

"One of the noblest duties of a soldier is to preserve and improve his health by every possible means. There is, therefore, a special obligation upon him to be most abstinent in the consumption of alcohol and nicotine." "Drunkenness is no longer to be considered a sign of manliness." Alcohol causes serious harm to the human organism, especially during growth and, moreover, the records of courts-martial are full of examples of crimes that would not have been committed had the accused been sober.

Excessive consumption of nicotine is also toxic for the juvenile organism.

"The struggle against the consumption of alcohol and nicotine is an honourable duty of every soldier for reasons of national policy: excessive consumption of these poisons will in the end sap the forces of the race and, in addition, in restricting consumption more funds will be made available for the acquisition of more important products."

Field-Marshal Goering does not wish to suppress all consumption of alcohol and nicotine, but he lays down that, as far as the German Air Force is concerned, it is forbidden: to instal special bars for the consumption of alcohol in the messes of officers, N.C.O.s. or men; to serve drink to soldiers who have already had some; to take alcohol immediately before going on duty, especially flying or driving; to sell foreign wines in canteens; to smoke in public; to smoke on the march, or during halts or, indeed, on any kind of duty; to sell foreign tobacco in canteens; to keep open canteens and messes after the local closing hours.

Any excessive consumption of alcohol or nicotine must be severely repressed by commanding officers.

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KARSHAN, M. Factors in Saliva correlated with Dental Caries. *J. Dental Res.* 1939, v. 18, 395-407.

This report is a continuation of one already given by the author and others on the results of an investigation on stimulated saliva in a series of cases of caries-free and caries-active subjects. In the present report the caries-free subjects had full sets of teeth free from cavities or fillings. The examination of the mouths was carried out with minuteness as well as by careful radiograph. The active caries group was chosen from subjects showing recent cavities, enamel lesions, and softened dentine. Another group—arrested caries—showed occlusal cavities with small fillings. A miscellaneous group was added consisting of mouths with cavities or fillings. The ages were 10-41 years, of which 90 per cent were between 15-25 years. The saliva was collected at from one to three hours after breakfast in two portions, 15 c.c., for determination of calcium, inorganic phosphate, and protein; tribasic calcium phosphate being used to remove traces of these by shaking—mercuric chloride (0.05 c.c. in a 2 per cent solution) was added

to the second portion during collection to prevent changes in CO₂ capacity. The similarity between the caries-free and arrested caries groups in the higher mean values for CO₂ capacity is shown in the tables as contrasted with those for the active caries group. Carbon dioxide capacity in the saliva indicates the ability of the saliva to neutralize acid—therefore these figures confirm the hypothesis that acid action plays a part in the production of decalcification of the enamel in active caries, and the striking similarity of the figures with those in the arrested caries groups is an added proof. At the same time it is a direct contradiction of an elaborate essay printed by the old Odontological Society three-quarters of a century ago, proving that carbon dioxide was a direct cause of dental caries.

Again there was a lower mean value in the percentage of phosphorus removed in the caries-free than in the caries-active group.

The conclusion from these investigations is on the same lines as that in the recent paper by Gottlieb (*British Dental Journal*), that there is some protective quality to be found in the saliva of caries-immunes which is absent from that secretion in caries-susceptibles. In this report by Karshan there is the statement that in places bathed by saliva and accessible to it there is no caries, whereas in more secluded places there is something which impedes this protective activity—Gottlieb calls it proteolysis, whereas Karshan seeks for it in the “acid neutralizing substances, and by the concentrations of calcium and inorganic phosphate or in forms in which they exist.” In plain English—those mouths free from caries are protected by some quality in their saliva which is absent from the saliva in mouths with active caries.

L. LINDSAY.

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Reviews.

A HISTORY OF TROPICAL MEDICINE. In two volumes. By H. Harold Scott, C.M.G., M.D., F.R.C.P., D.P.H., D.T.M.&H.Camb., F.R.S.E. London: Edward Arnold and Co. 1939. Vol. I, pp. xix + 648; Vol. II, pp. iv + 517. Price 50s. net.

This splendid contribution to our library of Tropical Medicine is of special interest to all officers, and indeed to all ranks, of the R.A.M.C., partly because it deals largely with the medical history of those climes and diseases which are our special “pigeon,” partly because it honours the memory and details the medical achievements of many distinguished officers, past and present, of our Corps.

The story opens with a fascinatingly breezy chapter dealing with the history of tropical medicine as it affects the Navy and Mercantile Marine. This chapter is of more than purely medical interest, and will appeal to all