THE LINGUAL APPLICATION OF IODINE AS A PROPHYLACTIC IN CEREBRO-SPINAL MENINGITIS AND INFLUENZA.

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THE treatment of cerebro-spinal meningitis by the application of iodine to the tongue led me to try it also in this manner as a prophylactic for the same disease, and for influenza during the epidemic in the Mbarara and Kigezi districts, Uganda, in 1918-19.

In both diseases the site of infection appears to be the respiratory passages, possibly most frequently the pharyngeal tonsils, and my assumption was that the iodine would to some extent cause disinfection of the mouth, throat, and tonsils, and thus prevent or reduce the intensity of the disease. Moreover, the iodine increases the flow of saliva which in itself is prohibitive to the growth of the organisms, and a four-fold action is thus brought into force:

1. The local disinfectant action on application near the site of infection.
2. The action of the increased flow of saliva.
3. The action of the iodine after absorption.
4. The excretion of the iodine in the saliva and respiratory passages again acting as a disinfectant.

Ordinary tincture of iodine (B. P.) was mixed with an equal part of native honey, and, in the case of cerebro-spinal meningitis, instructions were given that two or three drops of this mixture should be placed on the tongue of contacts two or three times daily. A large number of cases of cerebro-spinal meningitis among natives was being reported monthly throughout the district, and all that can be said as to results is that no contacts who used it developed the disease, and the number of deaths reported fell in a few months from an average of 100 to an average of 40 a month. Strict isolation of contacts, however, was in force before the use of the iodine, and it was unusual for contacts to become infected after segregation. It is therefore doubtful whether the iodine had any effect, but the natives themselves had great confidence in its efficacy.

In influenza the results appeared to be more definite. No attempts could be made to distribute an experimental medicinal prophylactic among the natives generally; distribution was therefore confined to ten Europeans, about 100 Asiatic clerks and shopkeepers, and a few native chiefs, clerks, and servants of Europeans. The iodine was used in the same manner, but with the recommendation that applications should be made at least every three hours, or more frequently if convenient. This was in November, 1918, when the first suspicious case of influenza occurred near Mbarara. Towards the end of December the disease became prevalent throughout the district, and nearly every person, except some of those to whom the iodine had been distributed, suffered from the disease in a more or less severe form. Among the Europeans, who all used the iodine more or less regularly, no case occurred, although many were in daily contact with persons suffering from the disease. With regard to the Asiatics and natives to whom the iodine had been distributed, it was impossible to ascertain in most cases with what regularity the prophylactic had been used, but a large number escaped infection altogether, and others had the disease in a mild form with no complications. None of the natives using it died; the death rate among those who did not was high. Among the Asiatic population also there were no deaths, as compared with a mortality rate of 6.53 per cent. throughout the Protectorate.

Many instances occurred which appeared to prove the efficacy of the prophylactic and the value of frequent applications. In one family the father, who was in daily contact with influenza cases in all stages, used the iodine regularly and escaped altogether, while the remainder of the family, who had used it less regularly, had mild attacks. In another case, one child appreciated the taste of the mixture so much that he managed to obtain frequent applications and escaped infection, while all the rest of the family had slight attacks.

I have refrained from publishing these notes until now as I considered the results far from convincing. During

the past year, however, I have had the opportunity of seeing several records of the use of iodine taken internally both in the treatment of and as a prophylactic for influenza. Possibly the iodine after lingual application instead of acting as a local disinfectant had its chief action through absorption, but personally I am convinced that its use saved several lives. Moreover, during the past year I have had the opportunity of using it with contacts of isolated cases of influenza, and all have escaped the disease. Possibly painting the tonsils and the back of the throat with iodine would be of greater value, but I consider this would be a too elaborate and unpleasant procedure to be adopted as a general prophylactic with regularity, whereas the placing of a few drops on the tongue is a very simple matter and may prove as efficacious if done with sufficient frequency.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

BILATERAL HYPOGLOSSAL PALSY DUE TO GUNSHOT WOUNDS.

A SIMULTANEOUS wounding of both hypoglossal nerves unaccompanied by any other serious injury, must be an uncommon event. I have short notes of two such cases and, though the records are imperfect and may show obvious defects from the neurological point of view, yet they may possess some interest.

CASE I.

Lance-Corporal S., wounded September 15th, 1916. A small fragment of shell has passed transversely across the infra-mandibular region. The wounds of entry and exit are both small, and correspond in position on the two sides. They are situated immediately below the mandible at the junction of the middle and posterior thirds of the horizontal ramus. Both hypoglossal nerves are paralysed. The patient cannot thrust his tongue forward, but can deviate it slightly from side to side, though not sufficiently to touch his cheek. He can dorsiflex the tongue, though not to a full degree, and can retract it fully towards the pharynx. The movements appear to be performed by the pharyngeal and extrinsic muscles, the tongue itself being almost inert except for the power of dorsiflexion. There is no loss of tactile sensation or of taste for salt in either half of the tongue. His pronunciation of the letters of the alphabet is given below.

CASE II.

Private G. N., wounded by rifle bullet, October 16th, 1916. The bullet has passed transversely below the lower jaw. The entry and exit wounds are small and symmetrically placed on the two sides immediately below the mandible, a quarter of an inch in front of the angle. The movements of the tongue are similar to those in Case I.

Pronunciation of the Letters of the Alphabet.

	CASE I.	CASE II.		CASE I.	CASE II.
A	āh	āh	N	en	en
B	bē	bē	O	o	o
C	cē	cē	P	pē	pē
D	vē (?)	dē (?)	Q	hōō	kew
E	ē	ē	R	ār	ār
F	eff	eff	S	ess	ess
G	vē (?)	dē (?)	T	fē	tē
H	hitch	aitch	U	oo	yew
I	i	i	V	vē	vē
J	wri	dē-a (?)	W	bubbleoo	doubleyew
K	fī	kē	X	ex	ex
L	ell	ell	Y	wī	wī
M	em	em	Z	reb	zeb (?)

Regarding the vowels, neither of the patients could pronounce A, as in day, or a long E, while in Case I U could not be pronounced as yew. In Case II the only consonants which were quite impossible were G and J, while in Case I D, K, Q, T, W, and Z also offered complete stumbling-blocks. In Case II the pronunciation of D was doubtful, there being a very small sound of the consonant, which was overshadowed by the forcible expiratory sound which accompanied it, and careful attention was required to appreciate the "D." Speaking generally, there were but few articular sounds which were quite impossible, though there was a general lack of distinctness in the enunciation, while excessive expiratory efforts were brought into use in the endeavour to give precision to the individual syllables and words.

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