

dealer can handle dirty milk without the knowledge of his customers. The dirt is removed but not the bacteria, pathogenic and otherwise, which were introduced with the dirt. Milk dealers need no ordinances to encourage them to use clarifiers.

Such actions of health officials would not be worthy of notice did they not illustrate what is constantly going on in health legislation, namely, the passing of ordinances which have no relation to public health under the recommendation of the health officials. When the truth is discovered by the citizen, is he not inclined to regard all regulations as being of a similar nature, that is, something which places a burden, economic or otherwise, on him with no resulting benefit?

The introduction of pasteurization is opposed by health officials because it enables the dealer to handle a poorer grade of milk than he otherwise could. Although this is perfectly true, pasteurization gives to the consumer a product more safe and of better keeping quality than the raw product. The clarification of milk is objectionable from the standpoint of the consumer, and yet health officials are apparently being led to urge its adoption. One is inclined to ask "What next?"

THE OCULOCARDIAC REFLEX IN SYPHILIS OF THE CENTRAL NERVOUS SYSTEM

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In the normal individual, pressure on the eyeball causes a slowing of the pulse rate through vagus inhibition. This inhibitory influence is likewise shown through action on various sensory nerves or surfaces. Goltz,¹ in 1863, by his *Klopversuch*, observed "standstill" of the heart following rapid light blows on the abdomen of a frog, which phenomenon was not observed when the vagi were cut. In man this is not infrequently seen in acute dyspepsia, peritonitis, a blow on the testes, etc. The afferent impulse in all these cases, carried to the central nervous system, causes a reflex activity of the inhibitory cells of the vagus. This cardiac inhibitory center may be considered as the bilateral group of cells in the medulla at the level of

the nuclei of origin of the vagi, and when the "tonic" action constantly exerted through this center is increased, cardiac inhibition results. When the eyeball is pressed, the afferent impulse is carried through the ophthalmic branch of the fifth nerve to the gasserian ganglion and by way of the larger root to its nucleus of cells lying on a level with the middle of the superior peduncle of the cerebellum, just internal to the margin of the fourth ventricle and external to the nucleus of origin of the motor fibers of the same nerve. The impulse passing downward to the cells of origin of the vagi, situated in the lower part of the floor of the fourth ventricle, excites the inhibitory cells, causing a slowing of the heart rate. In this as in any other reflex, abolition or exaggeration is resultant on destruction or irritation of the reflex arc.

Ashner, who first considered the oculocardiac reflex, regarded an acceleration or retardation of ten beats or more a minute as abnormal. Loeper and Mougeot² noted the abolition of the oculocardiac reflex in tabes, and stated that this abolition occurred in general with a diminution in the sensibility of the trigeminal fibers, sometimes with vagus disorders and always with Argyll Robertson pupil. Lesieur, Vernet and Petzetakis,³ from their observations, concluded that the reflex was sometimes abolished in tabes, even though the Argyll Robertson pupil was not present, in which case it might prove of early diagnostic value in determining the condition of the posterior root fibers of the pons, and consequently show the degree of ascending extension of the tabetic lesion. Guillain and Dubois⁴ reported six cases of pseudobulbar palsy in which they found the oculocardiac reflex to be abolished in four cases and accelerated in two, from which they inferred that central lesions have an influence on the determination of this reflex. Loeper, Mougeot and Vahram⁵ regarded the abolition of the oculocardiac reflex as an evidence of the affinity of syphilis for the central nervous system and as constituting one of the first evidences of disease of the central nervous system. Roubinovitch and Soudiere⁶ stated that "in the dementia dfe to syphilis of the central nervous system,

1. Goltz: Virchows Arch. f. path. Anat., 1863.

2. Loeper and Mougeot: Bull. et mēm. Soc. d. hōp. de Paris, Decem-ber, 1913.
3. Lesieur, Vernet and Petzetakis: Soc. mēd. d. hōp. de Lyon, March, 1914.
4. Guillain and Dubois: Bull. et mēm. Soc. mēd. d. hōp. de Paris, March, 1914.
5. Loeper, Mougeot and Vahram: Progrès mēd., April, 1914.
6. Roubinovitch and Soudiere: Soc. de psychiat. de Paris, June, 1914.

AVERAGE RESULT OF A STUDY OF THIRTY-SEVEN CASES

	Pupils *				Wassermann						
	R.	AN.	L.	AO.	C.R.	O.R.	Blood	Fluid	Noguchi	Cells	Lange's Test
Primary optic atrophy (paresis)...	—	+	—	—	Yes...	Absent....	4	4	Positive....	69	5555552000
Third nerve paralysis.....	—	+	—	+	Yes...	Absent....	4	4	Positive....	31	5554411000
Sixth nerve paralysis.....	—	+	—	+	Yes...	Absent....	4	4	Positive....	20	5555554100
Seventh nerve paralysis.....	+	—	+	+	Yes...	Absent....	Neg.	3	Positive....	84	1655553000
Millard-Gubler syndrome (left hemianalgesia).....	+	—	+	+	Yes...	Present....	Neg.	3	Positive....	84	1655553000
Pseudobulbar palsy.....	—	+	—	—	No...	Absent....	4	4	Positive....	28	Not made
Tabes dorsalis.....	—	+	—	+	Yes...	Absent....	2	..	Spinal puncture refused		
Paresis (demented).....	—	+	—	+	Yes...	Absent....	4	4	Positive....	117	555555552
Paresis (grandiose).....	—	+	—	+	Yes...	Absent....	2	4	Positive....	38	555555321
Paresis (maniacal).....	+	+	—	+	Yes...	Absent....	4	4	Positive....	85	5555555311
Paresis (paranoid).....	+	—	+	+	Yes...	Absent....	4	Neg.	Negative....	6	5555548100
J. M. (vitiligo).....	—	+	+	+	Yes...	Absent....	2	Neg.	Positive....	4	0055554300
R. W. (vitiligo and transitory hemiplegia).....	—	—	+	+	Yes...	Absent....	2	Neg.	Positive....	5	0155483200
Paresis (combined sclerosis).....	—	+	—	+	Absent....	Neg.	4	Positive....	32	5555543200
Dementia praecox (24 yrs. of age with syphilis)	+	+	+	+	Yes...	Absent....	4	Neg.	Negative....	8	1455548100

* R., regularity of outline; An., anisocoria; L., reaction of pupil to light; Ac., reaction of pupil to accommodation; O.R., corneal reflex; O.R., oculocardiac reflex.
† L.R.

hereditary or acquired, abolition of the oculocardiac reflex occurs very frequently, and, therefore, in absence of other physical signs of the disease, ought to suggest the etiology of the condition," and concluded that the abolition of the oculocardiac reflex was indicative of an organic lesion of syphilitic disease (hereditary or acquired) of the central nervous system.

The accompanying table is an average result of a study of thirty-seven cases of syphilis of the central nervous system in which pulse tracings were made.

OBSERVATIONS

1. Abolition of the oculocardiac reflex is among the earliest signs of syphilitic disease of the central nervous system and one of easy diagnostic practicability to the general practitioner.

2. The oculocardiac reflex was abolished on the side exhibiting the hemianalgesia with preserved tactile sensation in the case presenting the Millard-Gubler syndrome.

3. In only one case of well marked tabes with cervical involvement in which pressure on the eyeball and testes was not painful was there evidence of diminished or disturbed superficial sensation other than in the case mentioned above.

Pulse tracing during paroxysm of spasmodic weeping, occurring in pseudobulbar palsy.

4. In 52 per cent. of the cases studied, the pulse rate ranged from 82 to 112, and the increased rate occurred chiefly among the well marked paretics.

5. In third nerve palsy, the ptosis can sometimes be overcome by the patient reinforcing the ptotic lid by forcibly holding the lids of the sound eye closed.

6. During the paroxysms of spasmodic weeping, occurring in pseudobulbar palsy, the radial pulse is practically imperceptible at the wrist, showing a reflex inhibition of the heart beat.

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ACUTE APPENDICITIS

ANALYSIS OF EIGHT HUNDRED AND TWENTY-TWO CASES IN WHICH OPERATION WAS PERFORMED AT THE COOK COUNTY HOSPITAL

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From Nov. 11, 1912, to Feb. 22, 1916, 822 patients with acute appendicitis were operated on in the Cook County Hospital by the surgical staff of this institution. Of these, 766 recovered and fifty-eight died, a mortality of a trifle over 7 per cent. (7.05 +).

This corresponds almost exactly to that noted by Coffey,¹ who found a mortality of 7.4 per cent. in a series of 13,445 operations, collected from the various hospitals of this country.

Table 1, made from the notes recorded at the time of operation, will give an intelligent comprehension of the pathologic conditions encountered.

Of the fifty-eight cases terminating in death, seventeen showed a general peritonitis at the time of operation. These should be considered as cases of general peritonitis, as the complication (general peritonitis)

is of far greater importance than the original condition. Deducting these from the fifty-eight cases which terminated fatally, we have a mortality of not

TABLE 1.—PATHOLOGIC CONDITIONS*

Condition	Number
Acute appendicitis	445
Acute appendicitis with abscess	266
Gangrenous appendicitis	127
Acute appendicitis with diffuse or general peritonitis	26
Normal appendix	1
Total	865

* The discrepancy in the figures (865 and 822) is due to the fact that sometimes two conditions were encountered, as gangrenous appendix and abscess.

TABLE 2.—PATHOLOGIC CONDITIONS ENCOUNTERED IN THE FATAL CASES

Condition	Number
Acute appendicitis and general peritonitis	17
Acute appendicitis and abscess	21
Gangrenous appendicitis	7
Gangrenous appendicitis and abscess	6
Acute appendicitis	5
Gangrenous appendicitis with intestinal obstruction	1
Acute appendicitis and cholelithiasis	1

quite 5 per cent. (4.98) for what might be called uncomplicated acute appendicitis. Unfortunately many of our patients come from an unintelligent clientele and are not brought to the hospital before the disease

is far advanced, and the patient practically in a dying condition.

The importance of operating before this unfortunate complication has set in is so well recognized that it needs no comment and is emphasized by the analysis of Table 1.

Of the 445 patients operated on for simple acute appendicitis, five died, a mortality of a trifle over

TABLE 3.—OPERATIONS PERFORMED IN THE EIGHT HUNDRED AND TWENTY-TWO CASES

Operation	Number	Per Cent.
Appendectomy	418	50.8
Appendectomy and drainage	313	38
Simple drainage (appendix not removed)	79	9.5
Operation not described	12	1

TABLE 4.—OPERATIONS PERFORMED IN THE FATAL CASES

Operation	Number
Appendectomy	7
Appendectomy and drainage	32
Simple drainage	15
Cholecystostomy, appendectomy and drainage	1
Operation not described	3

TABLE 5.—CAUSES OF DEATH AS NOTED IN THE FIFTY-EIGHT FATAL CASES

Cause	Number
General peritonitis	33
General peritonitis and fecal fistula	5
Fecal fistula and decubitus	1
Fecal fistula	1
Subphrenic and retro canal abscess	1
Paralytic ileus	1
Pulmonary embolism and peritonitis	1
Brain abscess	1
Bronchopneumonia	1
Pneumonia	1
Emmoral thrombosis	1
Hemorrhage from abdominal wound	1
Cause of death not stated	10

1 per cent. Of the 266 patients operated on for acute appendicitis (suppurative, gangrenous, perforating) with abscess, six died, a mortality of 2.2 per cent.

Of the 127 patients having gangrenous appendicitis without abscess formation, seven died, a mortality of 5.5 per cent. From this it would seem probable that abscess formation should be considered as an indication of resistance on the part of the organism.

1. Coffey: New York Med. Jour., August, 1906.