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THE TREATMENT OF SPASMODIC TORTICOLLIS BY INTRADURAL POSTERIOR ROOT SECTION AND EXTRACRANIAL DIVISION OF THE SPINAL ACCESSORY.*

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The purpose of this paper is to report a case of spasmodic torticollis and to discuss briefly a type of surgical procedure employed to relieve the condition. The physiologic basis of the operation used in this case justifies the hope that it offers an additional means of overcoming a very stubborn disability.

D. J., aged 34, married, traveling salesman, was referred by Dr. Beverley R. Tucker, on January 17, 1926. In May, 1924, the patient had a high fever which lasted a day or two and toward the latter part of this attack he began to suffer with soreness and stiffness in the right side of the neck followed by jerking of the head and tonic spasm. The past history of the patient before the onset of torticollis showed that he had had repeated attacks of malaria; his tonsils had been removed twenty years before and a second tonsil operation done in 1921. In 1911, during a football game he received a fracture of the skull and probably a fracture of the outer edge of the left clavicle. There was no history or clinical evidence of syphilis or previous nervous disease. A submucous resection of the nasal septum with subsequent operation upon the turbinates and removal of nasal polyps had been done in 1924 to relieve a chronic nasal obstruction. There had been impaired hearing on the right side for a number of years, attributed to a chronic infection of the middle ear. His treatment for torticollis prior to operation in 1926 consisted of attempts to eradicate focal infection, intelligent physiotherapy, electricity and mechanical bracing of the head by means of a plaster cast. It was found to be impossible, however, to apply a cast of sufficient strength to prevent the contraction of the neck. Marked variation was reported in the severity of the attacks prior to operation. Sometimes improvement followed massage and again the patient felt better after operation upon the nose. There was never a complete disappearance of the spasm, but whenever the powerful tonic spasms which drew the occiput downward and to the right were lessened in severity, the patient felt greatly relieved.

Examination of the patient at time of his admission to the hospital in 1926 showed a powerful, athletic man 6 feet 3½ inches in height and weighing 260 pounds. The circumference of the neck had increased one inch since the onset of his trouble and at the time of his operation it was 18½ inches. The general examination, apart from the head and neck, was of no particular interest. The contraction of the neck muscles was typical of torticollis, which is well illustrated in the photographs Nos. 1 and 2. The patient frequently used his hands to flex the head when the tonic spasm of the posterior cervical muscles would retract the occiput. The chin was drawn upward and deviated to the left. The right ear was brought almost in contact with the right shoulder. The spasms were not confined to the right posterior muscles but at times the occiput would go almost directly backward. The usual position of the head, however, was with the occiput retracted and to the right with the chin well up and to the left. At times there would be clonic twitching of the chin but there was no overflow from the neck region except to the frontalis muscles, causing some corrugation of the brow during the most marked tonic spasm. The patient was becoming almost completely disabled and for eighteen months before admission to the hospital his time had been given almost entirely to one form of treatment or another. He had had a marked change of voice for many years. The voice was thick and tremulous and enunciation appeared to be difficult. Examination of the vocal cords, however, showed normal motor function. There was a slight, inconstant nystagmus both to the left and right. The cranial nerves were normal with the exception of the eighth and the right spinal accessory. The spasms of the neck, as is usually the case, were greatly intensified by

*Read before the Southern Surgical Association at Biloxi, Miss., December 14, 15 and 16, 1926.

My procedure in the repair of cleft palate is based upon the principle of the Lagenbeck operation. The important steps here are: (1) to denude thoroughly the adjacent margins of the cleft; (2) to mobilize freely the muco-periosteal flaps from the hard palate through small relaxation incisions near the posterior part of the alveolar processes; (3) to maintain good nutrition in the flaps; (4) to approximate accurately the denuded margins of the cleft with interrupted fine silver wire sutures, care being taken to avoid undue tension. Figures 6 and 7 show the steps of the cleft palate operation.

Results

From November 1925 to October 1926 I have performed thirty-three consecutive harelip and cleft palate operations without a death or serious post-operative complications. Out of this number, there have been twelve harelip operations and twenty-one cleft palate operations. The results in several of these cases are shown in accompanying illustrations. (Figures 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18).

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Discussion

Dr. W. L. Harris, *Norfolk:*—I think Dr. Horsley is to be congratulated upon his clear presentation of this horrible condition. There is no condition in the world which people are more grateful to have relieved. I think mothers, particularly, fail to recognize the importance of the nutrition of the child in this condition. I had a patient come here from Richmond several years ago, and the parents were very indignant because my good friend Horsley, in Richmond, would not operate. I told the mother he was right, that the child was in no condition to be operated upon. She was not satisfied and went to two of the leading surgeons in Norfolk, and they told her the child needed to be built up. She came back to me then and was satisfied to have me treat the child for three months, when I considered it was in condition to be operated upon. Then I got very good results. It is very difficult for a child with this defect to get sufficient nourishment. Most of them are not breast-fed; they are horrible condensed-milk babies. If the mother will insert a small calibre tube and feed the child vigorously by nasal or stomach tube and keep it in the sunlight, it will be in much better condition for operation.

A STUDY OF ACUTE UPPER RESPIRATORY INFECTIONS.

By WYNDHAM B. BLANTON, M. D., Richmond, Va.

A disease which affects 80 per cent of our population on an average of twice a year, against which preventive and curative measures are ridiculously ineffective, deserves repeated investigation and study. Especially is this true when the serious consequences and complications that follow in its wake are recalled. If we thought of our pneumonias, meningitises, brain abscesses, etc., oftener in terms of the usual antecedent upper respiratory infection, we would have more respect for the common cold.

The present study is based upon a review of the recent literature, and upon 800 answers to a questionnaire directed at certain aspects of the "cold problem." This method of investigation has been applied to the same subject by others, notably Townsend, Smiley and Barrow. In this locality we felt that many of the questions could be profitably repeated. Several additional questions have been investigated. Four groups of individuals make up the 800 studied. They were female operators and nurses (429), medical students (312), inmates of an old ladies' home (38), and children under eight (21).

The Frequency and Importance of Colds

Of the whole group reported, 80 per cent have had acute upper respiratory infections during the last twelve months. Among 403 female operators, 287 were affected (70 per cent.) Among 312 medical students, there were 298 involved (95 per cent). This 25 per cent higher incidence of "colds" in males may have an explanation in the more frequent use of overshoes and umbrellas by the females, as referred to later. The fact remains, that males are usually more exposed, and the greater incidence of "colds" among them is brought out in a comparison of men and women at Harvard and Stanford by Barrow.

The whole group averaged 1.7 "colds" during the last twelve months, and 2.4 for the previous years. The latter figure is more apt to be exaggerated. Again, it is noted that the males have more colds a year than the females—2 as opposed to 1.34. The low incidence among the aged (1.2), and the frequency of colds among children (3.6) is apparent, being about three times as great among the latter. These figures agree well with those of Townsend, who, among 1,272 individuals, found a rate of 1.9 "colds" per person—a morbidity of 1900 "colds" per 1000 population. Barrow's figures are still higher. Stanford men, 2.84; Stanford women, 2.09; Harvard men, 2.88. The repeated occurrence of "colds"

TABLE I

INCIDENCE OF COLDS IN THE WHOLE GROUP DURING THE LAST TWELVE MONTHS.

	Female Operators	Nurses	Aged Women	Children	Medical Students	Total
Total answers received	403	26	38	21	312	800
Number having colds	287	19	26	21	298	645
Percentage of colds	70	73	68	100	95	80

in the same season in the same individual is supposed to express a poor or short lived immunity. Cecil states that the immunity to a "cold" lasts from six to eight weeks. We have only recently encountered, however, an individual who experienced three colds in six weeks. The first was in the late summer and followed chilling of the body. The second was a sequence of the same character, and aborted in 24 hours. The third was a severe "cold" contracted during a house infection in which six or seven persons were involved. The explanation is simple and brings us to a reasonable classification of colds:

First, those which are not particularly contagious—"non-contagious" (Cecil), and which are probably due to organisms normally parasitic and docile inhabitants of our upper respiratory tract, acquiring invasive characteristics in the presence of a lowered resistance, usually from fatigue, chilling or other factors that lessen immunity. Second, those very contagious respiratory infections that depend upon the virulence of the causative organisms. A carrier or an unisolated acute coryza in the usual contacts of the winter months infects family after family. Increased virulence comes with repeated animal passage and "colds" sweep through whole families unabated.

For the whole group the average duration of these infections was 6.8 days, and the days lost from work were .6 for the year. 403 operators lost 177 days or .4 days per person. 312 medical students lost 280 days, or .9 days per person.

A graph plotted to show the monthly incidence of acute coryza in this locality displays two characteristic peaks, an especially high one in September and another during the months of January and February. Each subgroup separately plotted shows the same type of curve. Townsend produced similar graphs for other widely distributed localities (Boston, Washington, Chicago, New Orleans, San Francisco). He showed that in spite of the difference in climate there was a remarkably "synchronous behavior of the incidence of respiratory affections in all of the localities." Our curve conforms in the main with his except for the fact that last year September rather than October showed the higher incidence of "colds." It may or may not be of comfort to the sufferer to know that, while he endures "colds" in Virginia, the citizens of California and Massachusetts are equally subject to the same seasonal incidence.

TABLE II

AVERAGE YEARLY NUMBER OF COLDS REPORTED PER PERSON

	Female Operators	Nurses	Aged Women	Children	Medical Students	Total
For last 12 months	1.34	1.8	1.2	3.6	2.0	1.7
Previous years	2.2	2.2	--	--	2.5	2.4

Causative Factors: To the question, "To what do you attribute your 'colds,'" there were naturally many different answers, but a fairly simple grouping of them is possible. The great majority (705) considered changes of temperature responsible for their illness. Under this heading is grouped wet feet and clothes (146), drafts, natural and artificial (131), changes of atmospheric temperature (134), cold rooms, over-heated rooms, insufficient clothing, etc. A surprisingly few persons considered contact causative (36.) Only twelve mentioned poor ventilation. There is apparently little appreciation in this group of the factor of contagion. One catches "his

death of cold," not from another infected person, but through exposure of the body or other insults. If this be a true cross section of the public understanding of the origin of "colds," then there is need for dissemination of knowledge about the contagiousness of coryza and other respiratory infections. We need to know that handkerchiefs contaminate pockets and pockets in turn contaminate clean handkerchiefs and so we may constantly reinfect ourselves, and that the nursery handkerchief should be taboo.

mouth breathing, drafts, constipation, bathing, footwear and the removal of tonsils. He concluded that none of these were major factors in lowering resistance. He found that woolen clothes were no panacea, as there were a.most twice as many "colds" among the wearers of woolens as among those preferring lighter underclothes.

In answering our question, "Do you wear over-shoes or carry umbrellas?", four times as many over-shoes were reported worn by women as by men, and the female users of um-

TABLE III

THE CAUSES OF COLDS TABULATED FROM THE QUESTIONNAIRE.

	Medical Students	Operators	Nurses	Total	
Temperature				705	
Wet				146	
Feet	16	56	2		74
Clothes	25	47			72
Over-heating	77	6	2	85	
Cold room	4	12	2	18	
Lack of clothes	17	38	4	59	
Change of clothes	4	13		17	
Change of weather	89	42	3	134	
Drafts				131	
Natural	28	72	3		103
Artificial	2	26			28
Exposure	79	30	6	115	
Poor ventilation	6	6		12	
Contact	32	27	1	60	
Low resistance	25	1		26	
Susceptibility	7	3		10	
Stomach and bowels	9	1		10	
Bad throat—					
Tonsils, sinuses	3	4	2	9	
Dust	9			9	

The value of sterilization by boiling of the eating utensils of a person suffering from a cold has been repeatedly shown in camps and is applicable to household preventive medicine. We need more publicity about droplet infection, ventilation, and the high incidence of virulent bacteria recovered from agar plates exposed for only a few minutes to the air of a crowded room. The common towel, unwashed hands, the promiscuous cougher, the heedless sneezer, and the treacherous kiss of the acute coryza need to be held up for public condemnation. Isolation of those with colds is possible, though troublesome.

Smiley believed that a study of all the factors calculated to lower resistance might throw some light on the subject. He accordingly sought in his questionnaire for the influence on "colds" of such things as tobacco, dust, gas,

brellas were twenty times as numerous. As this is an outstanding difference in the habits of the two sexes, it would be interesting to know how much relation it bears to the recognized greater incidence of "colds" among men.

Barrow investigated the relation of the method of house heating to the occurrence of "colds" among the Stanford students without noting any great influence of one system over another. There was, however, a slightly lower susceptibility among users of wood and coal stoves. Of our total group, 694 answered the question on heating. Furnace heated houses numbered 402, stove heated 292. Eighty-three per cent of those living in furnace heated houses suffered from colds last year, while 76 per cent was the incidence among those whose homes were heated by stoves.

Complications: Ear involvement as a com-

TABLE IV

SHOWING THE RELATION OF HOUSE HEATING TO THE INCIDENCE OF COLDS.

	Furnaces			Stoves		
	Colds	No Colds	Per Cent	Colds	No Colds	Per Cent
Operators	98	51	----	182	66	----
Medical Students	226	12	----	35	1	----
Nurses	13	2	----	7	1	----
Total	337	65	83	224	68	76

plication of these infections in adults is not considerable in this group. There were eleven (11) cases. Sinus infection was much more frequent. Eighty-four cases were reported (11 per cent). Many excellent observers now believe that every coryza is accompanied by an infection of the paranasal sinuses. There is abundant autopsy and clinical evidence to substantiate this, and the intimate relation of the mucous membrane of the nose and these sinuses make the reason apparent. The routine use of suction and nasal shrinkage in the treatment of the coryzas is therefore indicated. It is stated that 75 per cent of all pneumonias begin in a "cold." Of the persons interrogated in this questionnaire, 27 stated that their "colds" had at one time or another developed into pneumonia.

TABLE V.

INCIDENCE OF EAR, SINUS AND PULMONARY COMPLICATIONS.

	Operators	Medical Students	Nurses	Total
Total No.	403	312	26	741
Ears	5	5	1	11
Sinuses	55	24	5	84
Pneumonia	11	16	----------	27

Prophylaxis: The problem is identical with that of any contagious disease. The first concern is with the infecting organism. Against virulent organisms the public should be protected by the means indicated above. If isolation is not enforced, prevalent bacteria should be rendered as relatively harmless as possible by ventilation, proper habits of coughing, sneezing, sputum disposal, hand washing, etc.

On the other side of the question is individual immunity. Vaccination, so successful in typhoid and other exotoxic diseases has naturally been tried repeatedly in the respiratory diseases. The reports of investigators is widely different. There is considerable evidence that a mixed prophylactic vaccine of the common upper respiratory organisms affects favorably the incidence of pneumonia. Cecil demonstrated it on a large group at Camp Upton. The occurrence of 173 cases of pneumonia in 19,481 unvaccinated as against 17 cases in 12,519 soldiers who were previously inoculated has great significance. Park and his co-workers in an investigation of the value of stock vaccines on New York Life Insurance Company employees also were impressed by the lowered incidence of pneumonia in the vaccinated. On the contrary, among a small group of my own, two out of one hundred inoculated developed pneumonia within the year. Is this experience applicable to anticold vaccination? One fact has to be borne in mind. We do not know what organism is the primary invader in "colds." Do the common mouth bacteria with which we are familiar (streptococci, staphylococci, pneumococci, influenza bacilli, etc.) play the whole role, or is there an unidentified germ, an anaerobe or filterable virus, which strikes the initial blow and prepares the field for the secondary invaders

with which we are acquainted? Foster and Olitsky claim to have conveyed colds by swabbing the pharynx of normal persons with material from the pharynx of acute coryza after first passing it through Berkfeld filters. This is certainly a likely theory in epidemic influenza, and it has its advocates as an explanation of some of the phenomena of colds. Valentine and Mishulow, in a cultural and serological study of streptococci from the inflamed mucous membrane of the upper respiratory tract, declared that there were so many groups and sub-groups serologically dissimilar that it was impossible to decide upon a dominant strain. They were of the belief that the strains isolated by them were not of primary etiological importance. With this possibility in view, it is easy to understand the weak point of vaccination against "colds." If a virus is the primary invader, our mixed vaccines are composed of bacteria entirely of secondary importance, and vaccination at best protects us only against the complications of "colds," sinuses, ears, pneumonia. It may do more. It may shorten or make milder the prolonged "cold" which in its later stage may be a disease of secondary invaders. So much for theory.

What are the facts about anti-cold vaccination? Von Sholley and Park reported the results of vaccination on 1,536 persons, and concluded that it was without value. McSweeney reported 1000 telephone employees vaccinated, two-thirds of whom later claimed to have been helped. Freudenthal maintains that it is effective against the so-called infectious "colds", but not against "colds" of exposure. Of the 800 persons interrogated by us on this point, there were 53 who had received the vaccine. Twenty-five (47 per cent) claimed to have been helped. Twenty-eight were not benefited. On the contrary, of 41 office patients, 30 (73 per cent) note from slight to great improvement (stock vaccine). Of the 94 combined cases, vaccination proved helpful in 57 per cent. The users of the properly prepared autogenous vaccine claim much better results. There are certain insurmountable difficulties in the routine use of autogenous strains. The expense and time element often put them out of the question. I have no doubt whatever that far better results are obtained with them employed at weekly intervals throughout the whole fall and winter season.

However varied prevalent ideas are about cold therapy, to neglect the active treatment of all "colds" is hazardous. The claim is made that "colds" may be diagnosed and cured before the onset of symptoms by the objective appearance of the mucous membranes of the eyes, nose and throat, and Dennett advocates the early instillation of silver salts into the conjunctivae as an effective way to sterilize the whole upper respiratory tract. There is little question about the effectiveness of rest in bed, warmth, fluids and alkalies in restoring and augmenting immunity. Shrinkage of the nasal mucous membrane and suction effectively promote drainage of the paranasal sinuses which seem to play a role in every cold. Local applications of silver, mercurochrome, and other so-called bactericidal agents are, of course, time honored procedures. There are, however, grave objections to swabbing and spraying. One wonders often if the injury to bacteria by these agents is not exceeded by the injury to tissue. Upon the same principle chlorine gas is advocated. Vedder and Sawyer reported in 1924 experiments, which, if confirmed, bid fair to revolutionize the whole treatment. They showed that the throat could be practically sterilized by inhalations of chlorine gas in concentrations of .02 mgm. per litre, and that in a closed chamber various respiratory infections could be effectively dealt with by using a concentration of .015 mgm. per litre. Of 931 "colds" so treated, 71.4 per cent

TABLE VI.

EFFECT OF PROPHYLACTIC VACCINATION FOR COLDS.

Number vaccinated	Helped	Not Helped	Percentage Helped
53 (questionnaire)	25	28	47
41 (office patients)	30	11	73
94 (total)	55	39	57

were cured and 23.4 per cent improved. Feldstein claimed to have cured or improved 89 per cent of 2,640 coryzas treated by him. These claims are significantly unconfirmed in the recent literature. There has been peculiar silence about the so-called chlorine treatment. Cecil writes me: "It is expensive and impractical, and the results are in no way commensurate with the objections to its use." Of 800 persons to whom our questionnaire went, only 7 had taken the treatment. Only two of these thought they had gotten any results.

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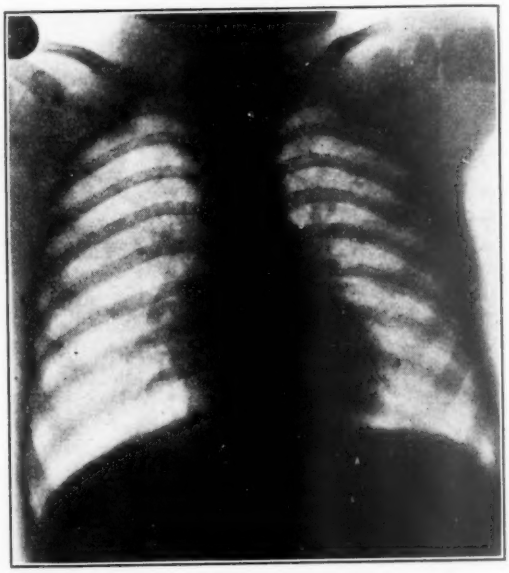
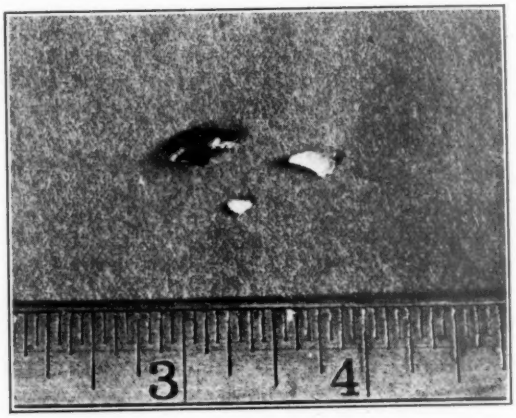
GRAIN OF CORN IN RIGHT MAIN BRONCHUS: REMOVAL BY USE OF BRONCHOSCOPE.

By E. G. GILL, M. D., Roanoke, Va.

Patient, age four, was admitted to the hospital, January 4, 1927, and gave the following history: December 31, 1926, child while eating parched corn suddenly strangled and coughed. Has had coughing spells at intervals since and has a wheezy sound all of



the time. Child has not had any particular difficulty in breathing and feels well. Temperature on admission was normal. Physical examination of chest was negative except for marked wheezing sound which was constant.



Blood count W. B. C. 11,600. Haemoglobin 65 per cent. Polynuclears 62 per cent. Lymphocytes, large 1 and small 37. X-ray examination of the chest did not reveal a foreign body or any pathological condition in either lung.

In view of the history which was so strongly