

4. Bilateral multiple abscesses present a virulent condition running a rather brief and stormy course leading to a fatal termination.

5. Early diagnosis and early medical treatment are the secrets of success in the cure of solitary lung abscesses.

6. As a final word, I believe that the results justify the concluding of this paper with a plea for the conservative treatment of lung abscesses.

University Club Building.

Clinical Notes, Suggestions and New Instruments

A URETERAL STONE DISLODGER

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A number of ureteral stone dislodgers and extractors have been devised in the past few years. In the majority of these, the device that traps the stone has made the caliber of the whole instrument so great that it is passed by the obstructing calculus with difficulty.

To secure an instrument with the smallest diameter possible, I designed the dislodger described here:

It consists of a number 1 or a 2 bougie. One and one-half inches from the tip of the bougie there are attached four stout threads of Japanese silk (tooth silk). These are made fast to the bougie core by very fine silk threads wrapped about their ends, as shown in figure 1. This attachment of the threads to the core marks the greatest diameter in the entire instrument. The point of attachment is spindle shaped so as to pass by the stone with the maximum of ease. After the threads have been bound to the core, the spindle should be shellacked to render it smooth.

The method of using the instrument is quite simple. The tip of a small bougie is passed beyond the calculus and the bougie is allowed to stay in position for twenty-four hours. Following this a number 7 catheter is inserted in the ureter past the obstructing calculus and also allowed to remain in situ for the same length of time. Immediately on removal of the latter, the instrument itself is thoroughly lubricated and the tip inserted beyond the stone. In order to facilitate its passage and

facilitates the passage of the instrument. After the obstruction has been passed, the cystoscope and the number 11 cut-off catheter are withdrawn from the bladder. The operator then pushes on the central core bougie and pulls downward simultaneously on the threads; this creates a pocket, as shown in figure 2. The threads and central core are then twisted and the stone is trapped; the instrument is then pulled downward very slowly and with frequent pauses. If the stone moves with difficulty it is advisable to allow three or four minutes to elapse before pulling down again on the instrument.

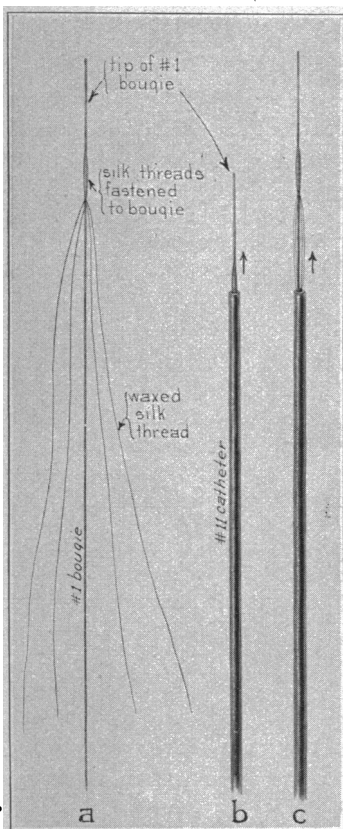


Fig. 1.—Elements of ureteral stone dislodger: a, the core of the instrument consists of a number 1 bougie. One and one-half inches from its tip the four wax threads are bound to the core by fine silk, making a slender spindle. b, The tip of the bougie and spindle are here seen projecting from the cut-off end of a number 11 catheter through which the instrument is passed to prevent the threads from becoming entangled. c, The spindle and threads are seen emerging from the tip of the cut-off catheter.

to prevent the threads from being caught on the elevator of the cystoscope, it is passed through the lumen of a number 11 catheter which has been cut off. If the cut-off tip of the catheter is placed directly against the ureteral orifice, it greatly

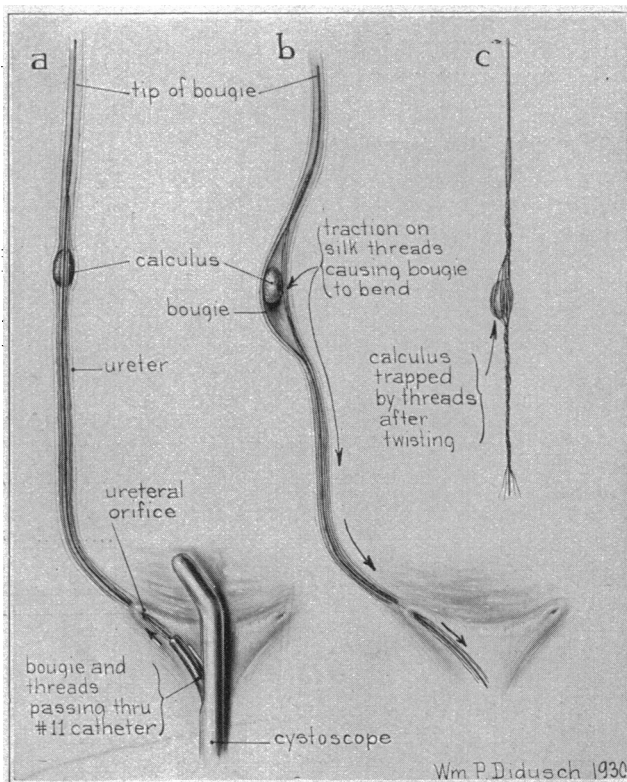


Fig. 2.—Method of using instrument: a, schematic representation of dislodger extending up the ureter past the stone. The cut-off catheter through which it is passed is seen elevated against the ureteral orifice. b, the result of pushing on the bougie and pulling on the threads. c the calculus, enmeshed by the twisted threads, is seen bound to the bougie.

Of course, the farther down the ureter the stone is, the easier will be its extraction. After it has been withdrawn into the bladder, its removal to the exterior is quite simple.

I intend to have the instrument commercially made and improved on by reducing to the smallest diameter the spindle where the threads are bound to the bougie.

Professional Building.

ASPERGILLUS INFECTION OF THE HAND *

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Organisms commonly considered nonpathogenic may at times show definite disease-producing properties. However, they are rare experiences. Even *Bacillus subtilis*, a ubiquitous saprophyte, has been reported as the cause of panophthalmitis by Silberschmidt and others.¹ Charrin and Nittis² showed that *B. subtilis* acquired considerable pathogenic power by repeated transfers on blood agar. It has long been known that saprophytic molds may manifest pathogenic properties. Certain mucors, penicillium

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1. Silberschmidt and Baenziger: Ber. d. Ophth. Gesellsch. Heidelberg, 1902, pp. 23, 217. Silberschmidt: Ann. de l'Inst. Pasteur 17:268-287, 1903. Kayser: Centralbl. bakt. Parasitenk., I. Orig. 33:241-246, 1902. 2. Charrin and Nittis: Compt. rend. Soc. de biol. 49:711-713, 1897.

and aspergillus have been frequently reported. Harmer and Jackes³ reported *Aspergillus fumigatus* in pus from a maxillary sinus; MacFarlan,⁴ aspergillus niger from a tongue lesion; and Lynch,⁵ following bites of the red bug (leptus), or chigger. Panayotatou⁶ isolated a variety of penicillium which is usually harmless from a tongue lesion; the organism was definitely pathogenic for mice but not for rabbits. As might be anticipated, many cases of fungus infection have been reported in which the organism was not definitely identified. Classification of the higher fungi is in a chaotic state and medical mycology lags far behind medical bacteriology. For example, Mitchell⁷ reported the isolation from lesions on the hands of a laundress of a fungus which in culture formed both mycelia and double contoured refractile bodies resembling blastomycetes. He called the condition "erosio interdigitalis blastomycetica." Others have applied the name "erosio interdigitalis saccharomycetica" to the same condition. Kingery and Thienes⁸ studied a number of cases of mycotic paronychia with dermatitis, apparently occurring only in people in the Pacific Northwest engaged in preparing fruit for canning. Locally it was called "fruit poisoning." Cultures revealed yeastlike organisms and mycelia. Intravenous injections produced a generalized infection in rabbits, and rubbing the organism into the skin produced a vesicular dermatitis. Realization of the possible pathogenic properties of saprophytes commonly considered nonpathogenic may occasionally lead to the solution of a baffling clinical problem, as in the following instance:

REPORT OF CASE

History.—J. E. H., a farmer, aged 37, consulted us, Jan. 13, 1926, for an indolent lesion on the back of the right hand of



Fig. 1.—Appearance of lesion before treatment.

two years' duration. There was nothing of significance in the past or family history of the patient.

Two years before, the patient had developed a "pimple" on his right thumb, which was lanced and which discharged pus. He attributed his trouble to husking corn before the "pimple" healed. The infection, which spread rapidly over the back of the hand, healed rapidly except in one area on the dorsum of the hand which refused to close completely under persistent and divers methods of treatment, such as radiation, antiseptic solutions, hot packing, and ointments. The lesion (fig. 1) presented itself as an ulcer with a crater about 15 mm. in diameter with



Fig. 2. Two months after local treatment with copper solution and ointment.

an elevated indurated purplish border from 7 to 9 mm. wide. Minute pustules were visible along the edge of the ulcer from which a thick creamy pus could be expressed. Only a staphylococcus was obtained on blood agar cultures made from this pus. The floor of the ulcer was a deep red and was granular where not covered by a dirty, grayish exudate. Between the thumb and the active lesion several thin whitish scars were to be seen, the seat of healed lesions.

The patient was well nourished, well developed, normal and muscular, and was in perfect physical condition. There were no other skin lesions. The urine examination was negative. The blood count was: red blood cells, 5,200,000; white blood cells, 8,000; polymorphonuclears, 66 per cent; small mononuclears, 24 per cent; large mononuclears, 6 per cent; eosinophils, 4 per cent. The Wassermann test was negative.

On the assumption of a staphylococcal infection, roentgen therapy and moist boric acid packs were administered intermittently for six weeks without improvement, when cultures on Sabouraud's medium yielded an aspergillus. The lesion was then treated with moist 1 per cent copper sulphate solution followed by an ointment containing 1 per cent copper subacetate. In two months the lesion was completely healed and it has remained so for four years (fig. 2).

The Organism.—When pus from the lesion was planted on Sabouraud's medium, an organism grew which corresponded to the description of *Aspergillus terreus* given by Thom:⁹ Growth on Sabouraud's medium is at first yellowish and then velvety brown. There is no odor. The conidiophores are from 5 to 8 microns in diameter and from 50 to 150 microns in length, more or less flexuous, with walls smooth and colorless or nearly so up to 1 micron thick, septate with the apex enlarged to form

3. Harmer and Jackes: Proc. Roy. Med. Soc. **12**:187-188, 1919.
4. MacFarlan, Douglas: Laryngoscope **34**:720-722 (Sept.) 1924.
5. Lynch, K. M.: Aspergillus in Scalp Lesions Following Red Bug (Leptus) Bites, Arch. Dermat. & Syph. **7**:599-602 (May) 1923.
6. Panayotatou, A.: Zentralbl. f. Bakteriol. Parasitenk., I, **101**:231-235 (Jan. 3) 1927.
7. Mitchell, J. H.: Erosio Interdigitalis Blastomycetica, Arch. Dermat. & Syph. **6**:675-679 (Dec.) 1922.
8. Kingery, L. B., and Thienes, C. H.: Mycotic Paronychia and Dermatitis; Hitherto Undescribed Condition Apparently Peculiar to Fruit Canners, Arch. Dermat. & Syph. **11**:186-202 (Feb.) 1925.

9. Thom, Charles; and Church, Margaret V.: The Aspergilli, Baltimore, Williams & Wilkins Company, 1926, p. 150.

a vesicle about 12 to 18 microns in diameter, bearing sterigmata in two series on its domelike upper surface, the primary ones from 2 to 2.5 by 7 to 9 microns and the secondary from 2 to 2.5 by 5 to 7 microns, closely packed, the conidioglobose about 2.5 microns in diameter. It liquefies gelatin.

Suspensions of the spores of the organisms isolated from our case were injected into four mice, four rabbits, four guinea-pigs and one dog. In guinea-pigs, nodules appeared in from six to eighty days which attained the size of a pea in from twelve to twenty days. Pustules developed and broke down, leaving ulcers similar to the one observed in the patient. Spontaneous healing began in from three to four weeks and the ulcers disappeared two or three weeks later. The phenomena in all the animals were similar but with some unimportant differences in time. The fungus was isolated in pure cultures from all the experimental lesions and on subcutaneous reinoculation again produced the same type of lesions. Intravenous inoculations were without apparent pathogenic effect.

CONCLUSIONS

An *aspergillus* was isolated from an indolent ulcerative hand lesion causing economic disability. Similar lesions were produced by subcutaneous inoculation of the organisms in laboratory animals. Rapid healing of the hand lesion, which had resisted varied treatments for two years, followed the application of 1 per cent copper sulphate solution alternating with 1 per cent copper subacetate ointment.

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TIC OF SALPINGOPALATINUS MUSCLE CAUSING SOUND AUDIBLE TO BYSTANDER

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A mentally deficient man, aged 30, was brought to my office by his mother because of a "ticking" in his ears that at times interfered with sleep. Though very frail as an infant, the patient seemed to be well until he was 5 years old when, following a fright, he appeared to be afraid of everything and everybody. He did not do well in school and even with a tutor made little progress. He could not read and was jealous of those who could. He performed simple chores about the farm. In boyhood, he would have convulsions after a fright but he has not had these during recent years.

The head noises had been present for at least twelve years. A number of physicians had been consulted and the patient had received many treatments for "catarrh." The noises had been worse for the past three months. Up to this point the history was not remarkable, but the mother then said that she could hear the noise. Observing my look of incredulity, she said that anybody could hear it by listening near his ear.

To my astonishment, a distinct "ticking" sound, audible at 20 inches, came from the left ear of the patient. It was perfectly rhythmic and at first I thought it was due in some way to his circulation, but the rate was 132 a minute, while the heart was 104. The ticking was so loud and it so closely resembled the noise of the wood-tick—or the so-called death-tick—that I wondered if an insect might not be within the external auditory canal near the drum; but none was found. After a moment the rate changed to 120.

He had heard noises in the right ear occasionally but I could hear nothing on this side until my ear was in contact with the patient's ear, when I could detect a faint ticking, not always regular, and the rate was 108.

Both the pharyngeal and the laryngeal examinations were negative.

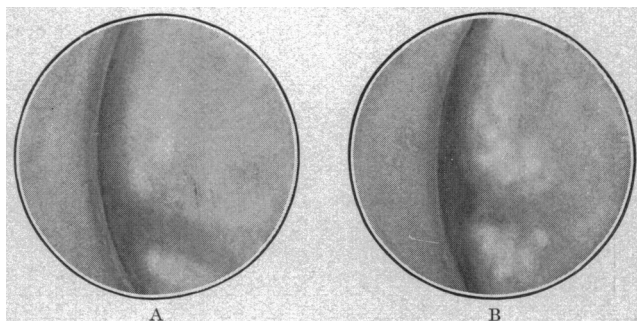
Believing that the sound was produced in the pharynx and transmitted along the eustachian tube to the ear, I referred him to Dr. William J. Dwyer for a nasopharyngoscopic examination. It was not possible to pass the nasopharyngoscope through the left nares, but when it was introduced through the right side a rhythmic contraction of the narrow muscle running along the anterior border of the left eustachian tube was

seen. It was a vertical nystagmus and, with each contraction, the orifice of the eustachian tube could be seen to open and to close with relaxation. The opening and closing of the eustachian tube, presumably due to its being moistened by mucus, made a click identical to that made when suddenly separating the moistened lips. When the listener moved away, the muscular contraction ceased, only to return when some one again placed his ear near that of the patient.

The remainder of the examination was of no especial interest. The patient said that the noise often kept him awake at night but his mother subsequently ascertained that when he slept there was no clicking to be heard. There has been considerable speculation as to just what muscle was implicated. Dr. Harry B. Ferris, professor of anatomy at Yale University School of Medicine, was of the opinion that it was probably the anterior fibers of the levator palati that pass from the eustachian tube to the back of the hard palate, generally known as the salpingopalatinus muscle.

A few similar cases have been reported, one by Houser¹ in which the clicking sound was audible at 4 feet. There was no movement of the drum-head and it was not synchronous with the pulse. When a bougie was introduced 1.5 cm. into the tube, the sound ceased on that side only to return when the bougie was removed. By means of the nasopharyngoscope he also observed the contraction of the muscle connected with the anterior lip of the eustachian tube.

Perhaps the most remarkable case was seen by Coates.² In his patient, movements of the soft palate and drum occurred



Appearance as seen through nasopharyngoscope: A, orifice of eustachian tube closed; salpingopalatinus muscle relaxed; B, salpingopalatinus muscle contracted and orifice of eustachian tube open.

with each click. Possibly it was due to the fact that the "drum" was implicated that the sound could be heard at a distance of 10 feet.

In Coates's case and in one seen by MacCuen Smith,² the introduction of a bougie did not stop the sound. Similar cases have been encountered from time to time, sometimes accompanied by organic brain trouble. The more recent work of Signorelli³ implicated the substantia reticularis.

Under the title "Palatal and Laryngeal Nystagmus," Wilson⁴ reported that a man, aged 53, had palatal nystagmus with a rate varying from 144 to 116. It was accompanied by a left superior constrictor, left posterior faucial pillar and the right superior constrictor; that of the palate was vertical, the other three horizontal. There was well marked twitching of the left arytenoid and of the left vocal cord synchronously with those of the palate. No mention is made, however, that any audible sounds were produced by these muscular contractions.

As with all tics, treatment is unsatisfactory. Tonsillectomy, tubal catheterization and bougienage were all tried in Houser's case without relief. An explanation as to how the noise is produced, with assurance that it is not of serious import, will probably be helpful in nervous patients. In my case, a small dose of bromide and phenobarbital appeared to have a beneficial effect.

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1. Houser, K. M.: Clonic Spasm of the Muscles of the Eustachian Tubes. *Arch. Otolaryng.* 7:289 (March) 1928.

2. In discussion on Houser (footnote 1).

3. Quoted in the discussion on Wilson (footnote 4).

4. Wilson: *Brain* 51, number 3, 1928.