

this lamp is that the nearer the carbon, the stronger is the blue light. In addition to acne lesions, he has used it for small abscesses and sebaceous glands. There are also some cases of eczema that react very quickly to this light.

DR. M. L. HEIDINGSFELD, Cincinnati, said that he has used a Heraeus quartz mercury lamp with the greatest satisfaction. He said that, in his opinion, it possesses decided advantages over other instruments used in phototherapy, particularly in the furuncular type of acne and in the treatment of small abscesses, on which it exerts an influence superior to any other form of light therapy that he has ever tried. In many of these cases he has used the x-ray and the London Hospital lamp, but mostly with indifferent results. He has also used a Kromayer quartz mercury lamp, and he has found the effects of this and the Heraeus instruments rather remarkable. They emit practically no heat at a distance of from six to eight inches, and, after an exposure of three or four minutes, they give rise to a decided bullous reaction. The effect of these instruments on certain forms of skin affections is striking and is almost remarkable in indurated and pustular acne; chronic forms of eczema and dermatitis, particularly infectious types, will be favorably influenced by a few applications of this form of light treatment. Cases of folliculitis and kerion, which resisted all forms of simple measures and rather prolonged x-ray treatment, yielded almost completely to one thorough application of this form of light energy. Some cases of lupus erythematosus, which baffle all other forms of treatment, x-ray and topical applications, have yielded very rapidly to this form of treatment. Others, however, have not been favorably influenced. Unlike Dr. Schamberg, he has not obtained any favorable influence from this form of treatment in alopecia areata, but it may be due to the fact that he did not push the treatment. In other respects his results do not differ materially from those of Dr. Schamberg, and he heartily endorses all the latter's favorable comments concerning this form of treatment.

DR. J. H. MUDGETT, Philadelphia, said that he has had considerable personal experience with light therapy, and he does not see how so many physicians, especially dermatologists, are so skeptical regarding it, and wonders whether or not they have any right to form an opinion about something they have never tried. With phototherapy it must be the same as with anything else; one must have experience with it before any opinion can be formed regarding it. Dr. Mudgett had five cases of ulcers of the leg last October which he treated successfully with an ordinary 500-candle power incandescent light, making hour exposures, and repeating the treatment every day and every other day. Some of them took two or three months to heal, but they were all long-standing cases—as long as ten years. In addition to the phototherapy he only used ordinary antiseptic applications, such as dermatologists recommend. In conclusion he suggested that dermatologists give this method of treatment a fair trial, in comparison with other methods.

DR. JAY F. SCHAMBERG, Philadelphia, said he believes that it is pretty well agreed that the treatment of lupus vulgaris remains the dominant field for phototherapy. Nevertheless, there are other dermatoses in which light treatment may be found useful. There is a distinction between phototherapy and actinotherapy. The blue, violet and ultra violet rays are not the only frequencies capable of influencing tissues. It has been shown that there is real efficacy in heat rays in certain conditions. The high-power incandescent lamps should be given a trial by competent and conservative workers. Extravagant claims have been made for various forms of light treatment which can not be indorsed. It has been shown that the penetrative power of light rays is in inverse proportion to their bactericidal effect.

Tainted Air.—The man who is 60 years old has spent 20 of those years in his bedroom. If his mind has been saturated with the old-time delusion that night air is dangerous, he has probably proceeded to make it a hundred-fold more dangerous by breathing over and over again the poisons that have been thrown off from human lungs.—*Good Health.*

BLASTOMYCOSIS IN AN INFANT.*

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This is a peculiar disease, from a geographic standpoint. Its home so far seems to be confined to America, and only in a few localities, largely in the Mississippi valley, if we also include the city of Chicago. The forms on the Pacific coast seem to differ from those found in other localities in the United States and are named protozoic and coccidioidal.

In cases of protozoan infection the organism develops by endogenous spore formation and not by budding,

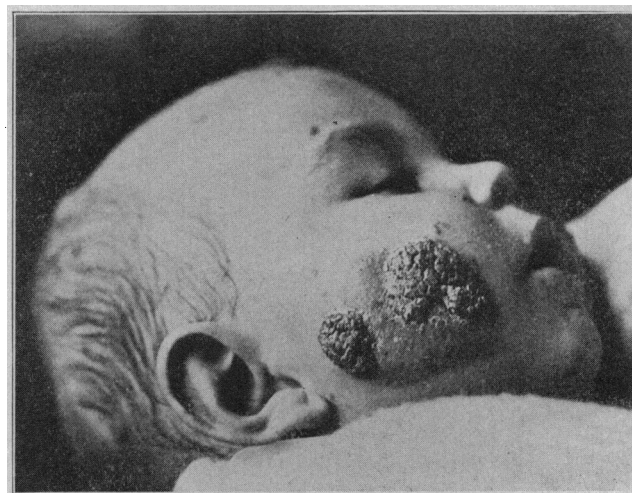


Fig. 1.—Blastomycosis. E. J., at 8 months, showing lesion on right cheek.



Fig. 2.—Blastomycosis. E. J., at 8 months, showing lesion on left cheek.

while in blastomycosis the only way of development in the tissue is by budding. The cultures also differ somewhat from those obtained in blastomycosis.

The first case reported from Boston was in the latter part of 1906. There were no recognized cases in England up to 1903; a doubtful one was reported from Madrid the same year. I have seen three cases in the past eight years, one of them somewhat doubtful.

I am indebted to Dr. W. W. Jones for referring to

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me the patient who is the subject of this paper and for the previous history as well as the family history.

History.—E. J., when she was four to five months old, was brought for treatment of an eruption which had appeared on her head and cheeks a week or ten days previously. The lesions consisted of patches about the size of a silver dollar, the one on the left cheek was oblong in contour, those on the right cheek and scalp were more or less circular. The patches consisted of crusts which were raised and warty in appearance, with red borders; there was a small amount of pus under the crusts and especially at the edges. In a few days other pin-head sized patches appeared around these, and formed crusts which gradually enlarged until, coalescing with the larger crusts, they formed large patches. An ointment was applied, which seemed to stop the extension of the lesions, but did not remove them. This treatment was continued for about three weeks. Then the little patient passed into the hands of a second physician, and later to a third. The disease had been named eczema, double eczema, etc. About three months later, Jan. 24, 1906, the baby was returned to the first physician and by him referred to me for a diagnosis and to recommend treatment.

Family History.—Mother of child had had two attacks of appendicitis, was of a nervous temperament, fairly well nourished, and had never had any skin lesions. The father had always enjoyed good health, and never had any skin disease. Father's mother had heart trouble. Aunts and uncles on both sides had been free from integumentary lesions.

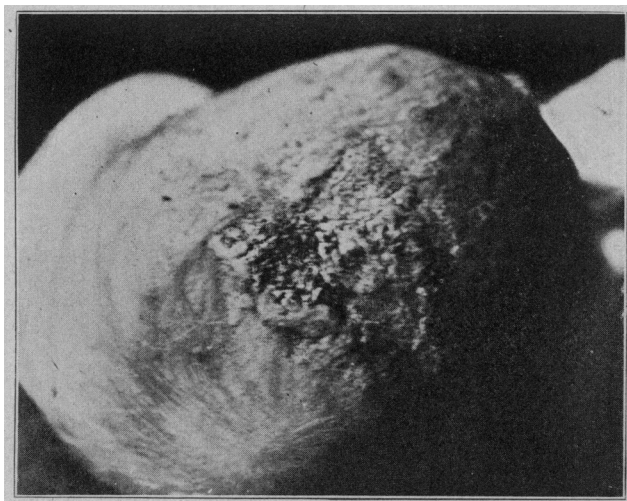


Fig. 3.—Blastomycosis. E. J., at 8 months, showing scalp lesion.

Examination.—The child, aged eight months, white, female, weighed twenty pounds and seemed to be well nourished. I found a lesion on the right cheek (Fig. 1), two and one-half by three inches in area, on the left cheek (Fig. 2); one a little larger, which was inclined to be circular in outline; one large patch on the scalp (Fig. 3), extending from the anterior of the occiput nearly or quite to the frontal bone, in width about three and one-half inches, with small split-pea sized lesions scattered from the facial to the parietal lesions, and many small patches on the buttocks and hips, which were devoid of crusts or warty appearance, but retained the red border—probably due to the contact of urine and frequent bathing. The patches on the face were elevated from one-eighth to one-fourth of an inch above the surrounding skin, the surface was covered by papilliform elevations separated by small clefts of varying depths, giving them a warty or cauliflower appearance. The borders sloped more or less abruptly from the elevated roughened surface to the surrounding skin. In color the lesions were not as dark as are those usually encountered in older patients, but were set with as many small abscesses as are usually found, but the warty projections were more delicate and a small amount of pus could be made to exude on pressure. The subjective symptoms would naturally be few in one so young, she seemed to be well nourished and nursed with a relish. When she became too warm she

would scratch her scalp, indicating that it itched slightly. Removing crusts, for culture and microscopic examination, caused the little one to cry out, indicating that the lesions were very sensitive to trauma; the base was very friable and vascular.

The clinical diagnosis was that the disease was probably blastomycosis. This was confirmed by microscopic examination.

Microscopic Examination.—An examination was first made of the dry scab covering considerable portions of the lesion proper, and it was found to consist principally of serum, dead epithelial cells and the powder which had been used for treatment. This dry scab was treated with a 5 per cent solution of potassium hydroxid, but none of the specific micro-organ-

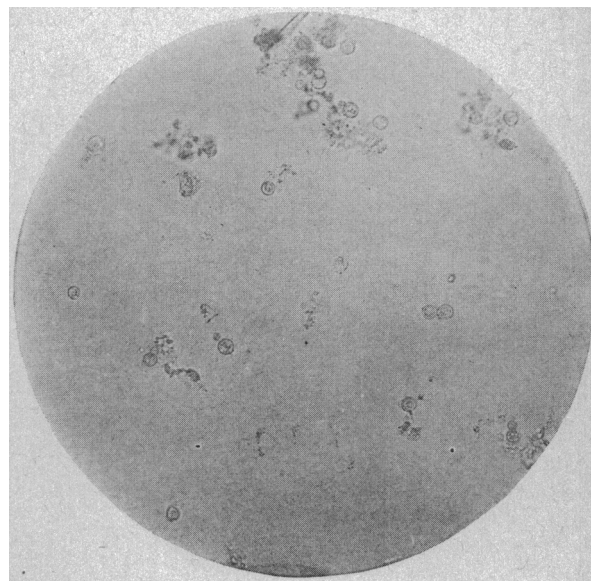


Fig. 4.—Photomicrograph showing budding blastomycetes. Objective 1/6.

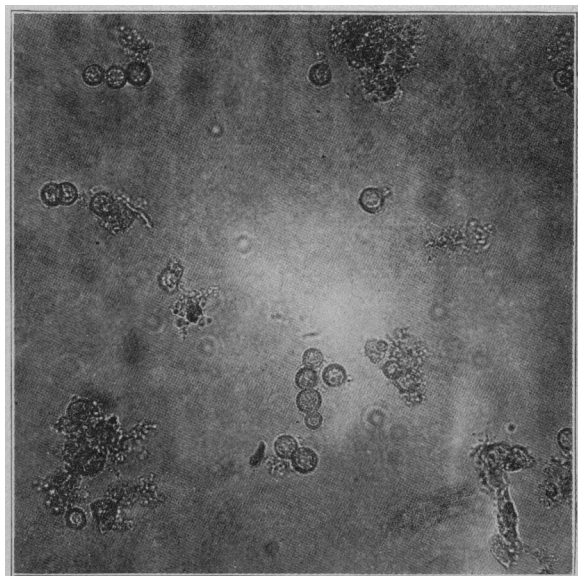


Fig. 5.—Photomicrograph showing organisms in pairs. Objective 1/6.

isms were discovered. On squeezing the tissue a purulent fluid escaped. Under the microscope this was found to consist principally of pus cells, broken down tissue elements and a few blastomycetes, with some bacteria, principally staphylococci. Next a piece of the proliferating newly formed tissue of the lesion proper was grasped with a forceps and excised with a sharp knife. A part of this was used for making a microscopic section, another part for the inoculation of culture media, and a third piece was macerated in a 5 per cent. solu-

tion of potassium hydroxid. After the cellular elements had become clarified by the caustic potash, it was found that the field of the microscope was filled with a large number of spherical organisms with a double wall and varying in diameter from 14 to 20 micra. Many presented small budding processes (Figs. 4 and 5); others grew in pairs, the protoplasm of both being continuous. In such cases one of the organisms evidently presented a rather mature bud. The organisms presented a rather refractile appearance because of the clearing of the protoplasm. Pieces of the diseased tissue were placed in tubes of glucose agar and blood serum, which were then placed

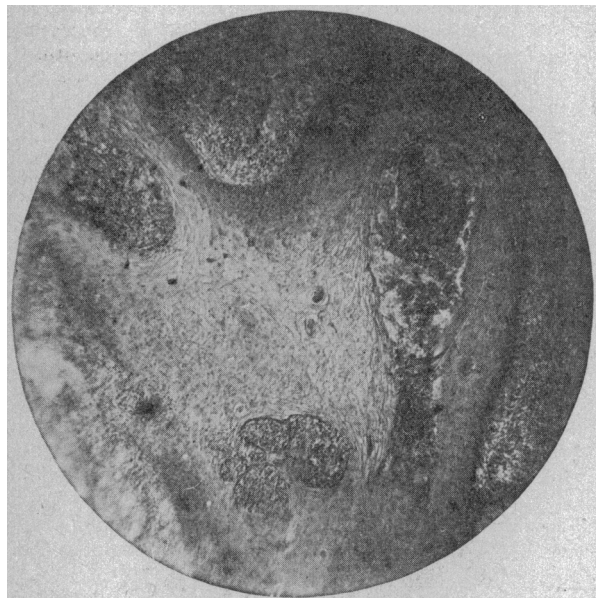


Fig. 6.—Photomicrograph of section through lesion showing areas of necrosis containing blastomycetes. Objective $\frac{3}{4}$.

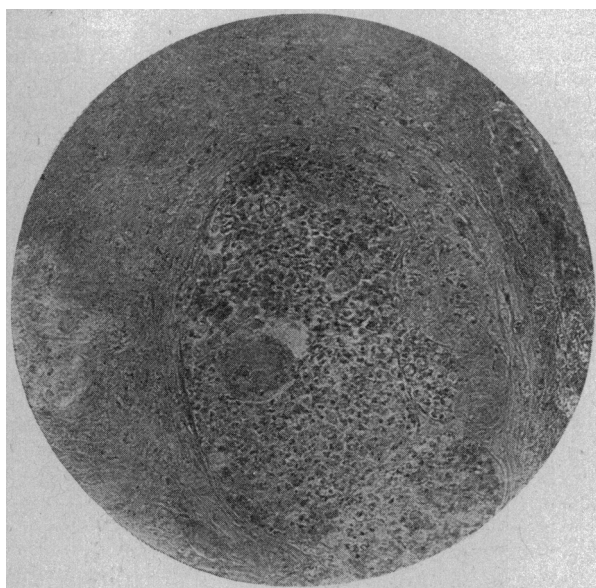


Fig. 7.—Same as Fig. 6 under $\frac{1}{6}$ objective.

in an incubator at a temperature of 37 C. After two days a growth was visible which on microscopic examination was found to consist principally of blastomycetes and a few staphylococci. These were then isolated by the use of the Petri dish method and pure cultures of each obtained. The staphylococcus presented its ordinary characteristics, and was no doubt present as a contaminating micro-organism. The cultures of the blastomycetes grew well both in the incubator and at body temperature. Those made on glucose agar grew much more rapidly than those on blood serum. There was considerable difference between the cultures when grown at incubator or ordinary room temperature. In the former they remained

as rather small, distinct, grayish colored, moist colonies, which on microscopic examination were found to consist principally of budding cells. On the glucose agar, however, they developed more rapidly, producing a dry, whitish woolly, elevated growth which spread over the entire surface of the medium, and which, on microscopic examination, was found to consist principally of hyphæ. The sections were imbedded in celloidin and cut 12 micra in thickness. The piece of tissue was found to consist almost entirely of epidermis, the cells of which had markedly proliferated. These consisted principally of a downward growth in the form of a wide irregular process. In many places, particularly in the deeper portions, a number of necrotic foci were found in a nest (Figs. 6 and 7) and projections of epithelial cells. These areas were filled principally with pus corpuscles and detritus of epithelial cells, and contained also a number of blastomycetic organisms.

Treatment.—Potassium iodid was recommended, as I did not think it prudent to use the Roentgen ray on one so young. There was besides, the difficulty of keeping the baby quiet when not asleep, as we found when the photographs were taken; those of the face and scalp were taken while she was asleep, the shoulder and buttocks were taken while she was awake and were destroyed. Preceding our examination it had been proposed by physicians that the child be weaned; why, I do not know, it being well nourished and stout for a babe of eight or nine months. I think it would have been a sad mistake, as we would have lost the indirect method of treatment. I took my

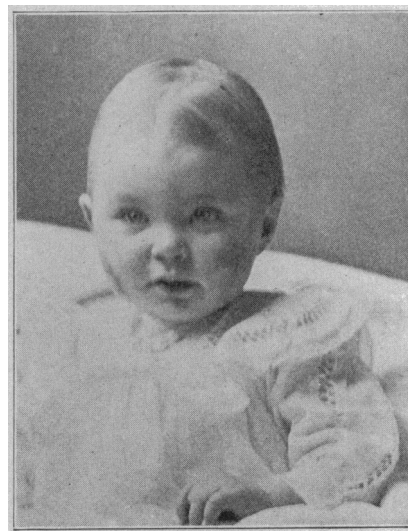


Fig. 8.—Blastomycosis. E. J., at 11 $\frac{3}{4}$ months, showing cicatrices on cheeks.

cue from the beneficial effects of treating the mother, who has a child with hereditary lues. The mother and child both took potassium iodid. A wash of formalin 2 per cent. solution was first used, then an ointment containing salicylic acid and zinc oxid with a lanolin base. The scabs softened and came away, and at the end of three weeks there was marked improvement; at the expiration of eight weeks all the scabs had disappeared, leaving only slight scars on the cheek (Fig. 8), which promise to entirely disappear in time. During the time the child was taking treatment it seemed well and grew rapidly.

My reasons for reporting this case are the geographic peculiarities, the beneficial effects of potassium iodid in the direct and indirect treatment of blastomycosis, and, last but not least, the fact that this is the youngest patient (eight months old) of which I have any record with the limited literature at my command. I am greatly indebted to Dr. Albert for the microscopic findings.

DISCUSSION.

DR. WILLIAM A. PUSEY, Chicago, said he thought the next youngest case was in a girl of 14 years, under his own care. He knew of no other infantile case reported. When Dr. Kessler first described the clinical appearances of his case, Dr.

Pusey thought that perhaps the case was one of vegetating dermatitis from pus organisms, but the bacteriologic findings, he said, leave no doubt as to the diagnosis.

The case emphasizes that blastomycosis may affect one at any age; the cases now on record range from eight months to the senile stage of life. To physicians in Chicago and in the Mississippi Valley blastomycosis is an exceedingly important subject. It is no longer a clinical curiosity in Chicago, where there have been many cases, so that even the hospital internes are acquainted with it. To many it is a source of constant speculation to learn why blastomycosis is so prevalent in our part of the country, and he thought that we are entirely ignorant on that score. It is by no means a trivial disease merely affecting the skin. Not infrequently cases of systemic blastomycosis closely simulate systemic tuberculosis. Dr. Pusey called attention to the fact that from ordinary pus infection a histologic picture may result similar to that of blastomycosis. He recently removed a papillomatous mass from the corona glandis which gave a histologic picture practically identical with that of blastomycosis. There was a dense infiltration of the corium with round cells, among which there were many mast cells and plasma cells. There was great overgrowth of the rete with down growth of intercapillary pegs, and all through the rete were to be found intraepithelial abscesses. Except for the absence of giant cells, the picture was that of blastomycosis. A number of Chicago men, familiar with blastomycosis, agreed that the picture was that of blastomycosis. Nevertheless, a rather careful search of the specimen failed to show blastomycetes. It was not difficult to demonstrate the presence of staphylococci in the tissue. Cultures made from the miliary abscesses showed no blastomycetes, but pure cultures of *Staphylococcus albus*. The case, therefore, seems to be one which clinically and histologically is closely like blastomycosis and yet is a lesion produced by a common pus organism.

DR. HENRY C. BAUM, Syracuse, N. Y., gave a summary of a case which he showed at the meeting of the American Dermatological Association two or three years ago. A colleague developed a lesion on the back of the right hand which was recognized clinically as blastomycosis, but in which the microorganisms could not be found. About three months later a similar lesion developed on the right ala nasi and the adjacent cheek, and a third lesion behind the left ear. As the diagnosis was reasonably positive, he was promptly put on potassium iodid and exposed to the x-rays. For a long time—perhaps six months—the treatment had no appreciable effect on the lesions, except that they did not extend. After many unsuccessful attempts, the organisms were finally found in each one of the lesions, and at the time the patient was presented, cultures were also shown, and the diagnosis was concurred in by all the members present. The case went on practically to recovery. First, the lesion on the cheek and nose disappeared, and then that on the scalp, and the hair, which had disappeared from that area, grew again. In all these patches there developed an atrophic and drawn appearance of the skin, and perhaps for a year later these patches remained soft and white and smooth. Dr. Baum thought the point of greatest interest in this case was the absolute inability to find the microorganisms for a long time, in spite of repeated smears and cultures on various media and blood serum, although finally they were located in all the lesions. Another case that came under his observation was that of a girl 12 years old in whom the process had involved the dorsal aspect of the right calf. Another was in a woman 52 years old, with a lesion on the back of the right hand. In both of these cases there was no difficulty in finding the organism from the start. In this last case no iodine preparation was given nor were the x-rays used, the treatment being limited to the application of an indifferent ointment and the use of the high-frequency current from the vacuum tube. The process healed very nicely, and in less time than did that in the first case, and in any future cases that come under his observation he is inclined to try the high-frequency current before resorting to the x-ray.

DR. W. T. CORLETT, Cleveland, Ohio, said that the only case thought to be blastomycosis he had seen in Cleveland was not

confirmed by the culture and microscopic findings after repeated trials. At one time it was thought that the characteristic budding yeast fungus had been found, but it proved to be due to the starch dressing employed. The patient has since died. The patient was shown at the meeting of the American Dermatological Association in 1906, when some doubt was expressed as to its nature.

DR. JOHN A. FORDYCE, New York City, called attention to Dr. Pusey's remark that pyogenic organisms may produce lesions similar to blastomycosis. Two years ago, at a meeting of the American Dermatological Association, Dr. Fordyce showed some photographs which presented the clinical picture of blastomycosis, but the organisms could not be found in the lesions. There was some epithelial proliferation and cell infiltration, but the characteristic micro-organism was absent. He emphasized that giant cells are found in blastomycosis, but not in pyogenic lesions.

DR. JAY F. SCHAMBERG, Philadelphia, reported an error of diagnosis in regard to a supposed case of blastomycosis cutis. The patient was a man with an extensive papillary ulcerating growth on the back of the hand. Sections of this were made and cultures taken from the pus which gave a rich growth of yeast fungus. The microscope failed to reveal the yeast fungus, but gave a general picture not unlike that of blastomycosis. On account of the histologic picture and the cultural findings a diagnosis of blastomycosis was made and the patient was treated on that basis. He subsequently grew worse, and further microscopic examination positively demonstrated that the case was one of carcinoma. An amputation of the hand was done, and carcinoma subsequently developed in the axilla, necessitating amputation of the arm and ultimately terminating in death. He felt sure that the presence of the yeast fungus was due to contamination from the air. Care is therefore necessary in diagnosis without confirmation by both histologic and cultural studies carefully pursued.

DR. M. B. HARTZELL, Philadelphia, remarked that the discussion shows that the diagnosis of blastomycosis cutis may be at times extremely difficult, and can only be definitely settled by microscopic examination. Dr. Hartzell recalled a case, which he saw about 18 months ago, in which there was a papillomatous lesion on the back of the hand which closely resembled blastomycosis. Sections and cultures from this lesion were entirely negative, and it healed spontaneously within six weeks, yet clinically it was a perfect picture of blastomycosis. Without finding the organisms of blastomycosis one is not justified in making that diagnosis.

DR. J. B. KESSLER, Iowa City, Iowa, agreed regarding the difficulties of diagnosis in some cases. When the case he reported first came under his observation, his son, Dr. J. C. Kessler, and he narrowed the diagnosis down to two affections, namely, mycosis fungoides and blastomycosis cutis. They had recently had a case of mycosis fungoides, and with the microscope they were able to establish that this case did not belong to that category, but was one of blastomycosis. Whether or not the local treatment had any beneficial effect in this case he was unable to say. Potassium iodid was administered to the mother with the idea that it might indirectly benefit the child.

Posterior Basal Meningitis Made a Notifiable Disease.—On the beginning of the epidemic of cerebrospinal meningitis in England, the London County Council made the disease notifiable for a period of six months, and up to June 18 fifty-six cases were reported. The question arose whether or not the term cerebrospinal fever included posterior basal meningitis. The Royal College of Physicians appointed a committee, which reported that intermediate cases occur in which differentiation is impracticable. No difference in the bacteriology of the two diseases has been demonstrated. The committee recommended that for notification purposes posterior basal meningitis should be included under the term cerebrospinal fever. That after notification, further details of the cases should be obtained, (a) in hospitals through the medical officers; (b) in private by a special officer available to investigate the cases bacteriologically or otherwise in association with the physician in charge.