so far as I know, except the Johns Hopkins and possibly Ann Arbor, is the absence of personal interest in the individual student. The student should have some one to whom he can go at practically any time to talk with about his work. A spirit of comradeship should be established between instructors and students, which would be of great value to both. The closer the intimacy between student and teacher the more likely the teacher is to know the defects of his teaching, and the student can, by informal conferences with his instructor, obtain not alone knowledge, but inspiration for his work. I have been impressed at Johns Hopkins with the feeling students have that they are an integral part of the school and hospital. I dare say it exists in other places, but it has not been my fortune to see it. I would suggest, where there is a large number of instructors, that during the third and fourth years the students be assigned to tutors. It would not be burdensome to the instructors; in fact, it would be enjoyable for them to be brought in contact with bright minds.

(10) *Diagnosis Clinics.*—These are of a good deal of value if conducted before a whole class, and better before small sections. To place the student before a case, to have him extract the information from a patient, and, although at times this is done clumsily, it is of real value both to the individual student and to his classmates, for we learn more by our blunders than by our successes, and if we are intelligent we learn by the blunders of others. The elaborate eliminative diagnosis which is used by many instructors is at times unnecessarily cumbersome. It is frequently of great value to bring before students a case in which the diagnosis cannot be made, and to have them work out by asking questions and making suggestions, the fact that a diagnosis cannot be made. This teaches them that every patient cannot be dubbed with the name of a disease.

(To be continued.)

DECIDUOMA MALIGNUM; REPORT OF A CASE.¹

BY J. C. HUBBARD, M.D., BOSTON,

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LAST February I saw in consultation with Dr. Ring, to whom I am indebted for many of the notes, the following case:

Mrs. G., thirty-four years old; married. Her mother had a malignant growth, her mother's sister a cancer of the breast, and another sister uterine polyps. She had five children, the oldest twelve years and the youngest two. While carrying the last child she began to flow and expected to miscarry, but went to term. After the labor it took her longer than usual to regain her strength and get about. She has had two abortions performed, and since the last child has been so fearful of again becoming pregnant that she has used everything on the market to prevent conception.

¹ Case reported Sept. 18, 1902, at the semi-annual meeting of the Bristol North District Medical Society.

In May, 1901, her period was delayed seventeen days, and the flow was only then induced by the use of drugs, douches and a sound. She had what she considered a miscarriage. At each of the following four periods she ran over from two to four days and flowed excessively.

She was first seen in October by Dr. Ring, when he found her in bed and flowing freely. Rest and packing controlled the flow sufficiently for her to go to the doctor's office, when he made a thorough examination. He found the uterus enlarged to over three inches by measurement; soft, boggy and sensitive, and the left tube thickened and very tender. He gave electricity within the uterus for some time without much success.

About Nov. 20 the patient had a severe hemorrhage, and the doctor shortly after that curetted the uterus. For the following three weeks she was better; then came a hemorrhage which almost killed her — with this flowing there were some contraction pains.

She was then seen in consultation by a doctor from the neighborhood of Boston. He examined her under ether, and came upon a large uterine polyp which bled so freely that he packed the uterus. A week later, on Jan. 12, he curetted away the polyp which was very friable. Patient then did nicely till Jan. 28, when she had another profuse hemorrhage. As this occurred at about the time for a regular menstrual period, the vagina alone was packed.

On Feb. 9 there was another severe hemorrhage, with a slight rise in the temperature. At this time the uterus itself was packed. From then, until Feb. 28, when I saw the patient, the uterus had been constantly packed, the packing having been changed every few days.

The salient features of this history are in a few words as follows:

An abortion was done in May. The following periods were soon accompanied by excessive flowing, which in October was sufficient to send the patient to bed. The hemorrhages continued, gradually increasing, and were not affected at all by curettages in December and January.

When I saw the patient I found an extremely pale, almost exsanguinated woman, with a poor pulse of 120 and a slight temperature. She had what seemed a phlebitis of the right internal saphenous and femoral veins. The uterus was enlarged, was soft and boggy, and there was some tenderness on the right side of the pelvis, with a possibly enlarged right Fallopian tube.

Under ether a hysterectomy by the abdominal route was done as rapidly as possible. During the operation the patient was given, because of a failing pulse, stimulants and a quart of Ringer's solution by intravenous injection. Although the woman was in a critical condition for some days, the convalescence was uneventful. The phlebitis cleared up, and on Sept. 12, six and a half months after the operation, she wrote to me as follows: "I am gaining all the time. I can sweep a little, cook some, and iron a short time, although I don't make a practice of doing the latter much. This week I have stitched some. Have taken care of my five children since May. I weigh as much as I did before the operation."

The specimen was given to Dr. J. H. Wright of the clinico-pathological laboratory of the Massachusetts General Hospital, who gave the following report:

The specimen consists of the corpus and fundus of a uterus with oviducts and ovaries attached. The cervical portion of the uterus is absent and has apparently been cut away.

The portion of the uterus included in the specimen is larger than normal, its extreme length in the hardened specimen being about 6 cm. The wall of the cor-

pus is about 2 cm. thick in its thicker portions. The uterine cavity is larger than normal and contains an elongated tumor mass, which is attached by a broad pedicle to the posterior wall and adjacent portions of the fundus of the uterus.

This tumor mass has dimensions of about 4 by 2 by 1 cm. Its long axis corresponds to the long axis of the uterine cavity. Its surface is somewhat irregular or obscurely lobulated. At one point it presents an irregular fissure, and its surface in the neighborhood of this is of a greenish color and necrotic looking. Its surface elsewhere is of a grayish and reddish color. The tumor mass is fairly firm in consistence. On section, the cut surface shows bands and streaks of grayish fibrous-like tissue, enclosing islands of translucent reddish tissue and small masses of what seems to be clotted blood. The fibrous-like tissue appears to be continuous with the muscular wall of the uterus, from which, for this reason, the mass of the tumor is not sharply defined. The tumor appears to be attached to the uterine wall over a length in the hardened specimen of between 3 and 3 1-3 cm.

Upon further dissection there is found in the posterior wall of the uterus, in the region of the attachment of the tumor and near the point of junction of the fundus with the posterior uterine wall, a spheroidal tumor mass about 12 mm. in greatest diameter. This tumor, on section, in the formalin hardened condition, is of a generally brownish color, and of a shreddy or spongy appearance in its peripheral portions, while in its central portions it shows grayish homogeneous ill-defined areas. This tumor is separated from the tumor mass attached to the endometrium by a layer of uterine muscular tissue at least 2 mm. thick. It is also separated from the serous surface of the uterus by a layer of uterine tissue about 1½ mm. thick.

In the right ovary, which is about normal size, there is a doubtful corpus luteum, presenting a layer of yellow opaque tissue at its periphery about 1 mm. thick. Ovaries and oviducts not otherwise remarkable.

Microscopic examination of sections from each of the tumor masses shows the following:

Each tumor mass consists essentially of cells and a considerable amount of necrotic, more or less fibrin-like material, which in places is infiltrated with leucocytes. The cells of the tumors are generally of medium to large size, and are frequently arranged in columns or masses separated by clefts and splits in the tissue. There is no connective tissue stroma. The cells are of peculiar appearance, and among them two chief kinds may be recognized:

One kind, and probably the predominating, has an oval or rounded, well-formed vesicular nucleus and a variable amount of cytoplasm with definite outlines, which doesn't stain deeply with eosin and is of spongy structure.

The other kind of cell appears usually as elongated masses or short bands of rather deep staining homogeneous dense protoplasm, in which generally elongated dark staining nuclei are imbedded. In a single mass of protoplasm a number of nuclei may be present. This second kind of cell shows a tendency to be applied closely to the exterior of masses of the first mentioned kind of cell in such a manner as to form an imperfect layer covering them.

A comparison of these two kinds of cells with the two kinds of cells which cover the chorionic villi shows with reasonable certainty that they are identical with them. The first mentioned kind of cell has great resemblance to the cells forming the inner layer of the covering of the villus, the so-called layer of Langhans. The second kind of cell is evidently identical with the external layer of the covering of the villus, the so-called syncytium. As has been pointed out above, the syncytium-like cells of the tumor show a tendency to be closely applied to, and to cover or enclose, masses of the tumor cells, which are like the inner layer of the villus covering. This tendency of the syncytium-like cells may be regarded as inherited from their assumed

progenitors, the cells of the syncytium, whose function is to form the external covering of the villi.

The necrotic material above referred to as occurring in the tumors, is like certain necrotic material which is observed in the normal placenta, and which is regarded as resulting from the degeneration of the cellular coverings of the villi.

It is remarkable that the tumors have no blood vessels of their own.

In view of the similarity of the cells of the tumors to the cells covering the chorionic villi, not only in their morphology, but in their arrangement and degenerative processes, it seems reasonable to conclude that the tumors in this case have grown from cells of the villus coverings which have gained entrance to the uterine wall. In as much as the cells covering the villi are regarded by the best authorities as derived from fetal ectoderm, this tumor must be regarded as an epithelial tumor, originating from the fetal and not from the maternal tissues, and is to be classed with the carcinomata rather than the sarcomata.

Deciduoma malignum was first described by Chiari in 1877, though to Snger apparently belongs the credit of having called the attention of the general medical public to this form of tumor. It has appeared under various names, according to the interpretation of its histology by the different observers. Chorio-epithelioma, decidual-cell sarcoma, syncytial carcinoma and deciduoma malignum are some of its many synonyms.

It occurs after any form of conception whatsoever; after normal uterine pregnancy or extra-uterine pregnancy; after abortion and hydatidiform mole. It follows a mole most frequently, the nature of the pregnancy rather than its number being a direct etiological factor, for in a series of 128 cases collected by Ladinski² it followed a mole in 51, abortion in 42, labor at term 28, premature labor 4, tubal pregnancy 3; while in 90 cases he found that the average number of the pregnancy which the deciduoma malignum followed was 4.2, which corresponds to the average number of pregnancies of parturient women in general.

As it follows a pregnancy of some form, it occurs in women during the period of their greatest sexual activity, the average age, in 124 cases being thirty-two years (Ladinski). The ordinary symptom complex is as follows: Soon after the discharge of a mole, an abortion, or a normal labor, there develops a tendency to uterine hemorrhages, which may show itself insidiously, perhaps by a little dribbling constantly increasing, or suddenly by a well-marked flow. This metorrhagia stops perhaps now and then for a time, but returns at ever shorter intervals with increasing severity until the loss of blood at any hemorrhage may be sufficient to prostrate the patient. The hemorrhage does not yield to the treatment for subinvolution metritis or retained portions of the pregnancy. With the flowing there may or not be uterine cramps, with the expulsion of bits of tissue. There is marked and rapidly progressive emaciation and weakness out of proportion to the loss of blood. Then grave septic symptoms are added: fever, dusky skin, rigors, and even delirium. Metastases rapidly develop, especially in the lungs, as shown by hemoptysis, and death

² American Journal Obstetrics, April, 1902.

soon occurs. In 52 cases collected by Dorland³ death occurred in almost 79% within six months of the appearance of the symptoms.

The reason that deciduoma malignum follows a mole most frequently may be found in the histology of a mole, which, according to Marchand,⁴ is formed by an increased growth of syncytium and proliferation of Langhans cells, so that the change from a mole to a deciduoma is comparatively slight, and in fact, Neuman⁵ considers that all moles are not necessarily benign. Deciduoma malignum differs from carcinoma of the uterus, in that it grows into the blood spaces and sinuses of the uterus, through which metastases are formed sooner than through the lymph channels, as in carcinoma.

Examination early in the course of the disease reveals a uterus somewhat enlarged and soft with the os perhaps patulous. If it is possible to explore the uterine cavity with the finger, a soft very easily bleeding, friable, fungoid mass will be felt. As the case progresses the examination becomes more and more definite. This form of tumor is said to be the most malignant of all tumors, and metastases appear early, so early, in fact, that in several cases a metastasis in the vagina has been the first indication of the primary tumor. Williams⁶ reports a case where a vaginal metastasis appeared within two weeks of delivery and before the development of any other symptoms. Croom⁷ also reports a case where the microscopic examination of a tumor, which had been considered a retention cyst of Bartholini's gland, but proved to be solid, gave the true diagnosis of a large uterine tumor the exact nature of which up to that time had been unknown. Metastases occur, as I have said, through the circulation, most frequently in the vagina and lungs. In 132 cases tabulated by Ladinski metastases occurred in the lungs in 47 and in the vagina in 40. As metastases occur in from 70 (Dorland) to 90% (Metoz)⁸ of the cases they are found in almost every organ in addition to the lungs and vagina, spleen, kidneys, ovary, liver, broad ligament, brain, colon, diaphragm, ribs, abdominal wall, bladder, mesenteric and prevertebral glands, face, stomach, pancreas, etc.

The diagnosis is made from the excessive hemorrhages following soon after some form of conception, and not yielding to the treatment appropriate for retained portions of the pregnancy, endometritis, metritis or subinvolution, the marked cachexia, a uterus enlarged and boggy, containing a friable, soft, easily bleeding tumor, and from the microscopic examination of a bit of the tissue.

As this form of tumor is the most malignant of all malignant tumors, the prognosis is essentially bad. Its malignancy shows itself in its very rapid development, and the early formation of metastases soon followed by death in the unoperated cases.

The only hope, then, of cure is in an early diagnosis, with the institution forthwith of the proper treatment, for Williams⁹ reported in 1898 that all cases not operated on had died. It may prove fatal in a few days after the cessation of the pregnancy, though ordinarily death does not come for from three to six months. In fifty-two cases collected in 1897 by Dorland the mortality was 73%. Ladinski in 1902 increased the collection of published cases to 124, and found the death-rate reduced to 59%. This change in the death-rate gives an idea what a proper understanding of the disease and a radical operation will do toward saving life. Even this percentage can be lowered by operating immediately on all cases, for of sixty-six patients on whom a radical operation was done, fifty recovered, making a death-rate of but 24%.

The treatment is most necessarily radical, and anything short of that after the diagnosis is once made is not justifiable. The fact that such a form of tumor does exist makes it absolutely necessary to submit to a pathologist any curettings from the uterus where there is the least doubt of the diagnosis, for the possibility of a cure depends on an early recognition. A hysterectomy offers the only hope. Whether it shall be by the vaginal or abdominal route must depend on the choice of the operator and the peculiarities of the individual case. Nothing less radical offers the least hope of cure, and is only wasting valuable time.

Clinical Department.

MASSACHUSETTS GENERAL HOSPITAL. CLINICAL MEETING OF THE STAFF.

REGULAR meeting, May 9, 1902, the president, Dr. C. B. PORTER, in the chair.

[Concluded from No. 16, p. 434.]

Dr. E. G. CUTLER reported the following cases:

MEDIASTINAL LYMPHOSARCOMA WITH X-RAY DERMATITIS.

CASE I. I show a case of a supposed mediastinal lymphosarcoma with glands above the clavicle; one of the glands has been excised, and diagnosis made by histological examination. The patient came for pressure symptoms, which were as follows: Edema of the arm and face, the veins standing out upon the chest; dyspnea and hoarseness, which was shown not to be due to paralysis of the vocal cords; cough and general discomfort. Four exposures of ten minutes each at a distance of 10 inches were made by Dr. Codman's directions, all in the course of six days. She now shows a marked dermatitis, but says she is no better except that her voice is improved. When she came it was like the voice of a street hawker. The dullness beneath the sternum is unchanged. The glands are no smaller; indeed, since the edema has declined we notice them more, but the hand is less cyanotic.

GRAVIES' DISEASE WITH PIGMENTATION.

CASE II. An exophthalmic goitre showing the usual symptoms, struma, rapid heart, tremor, sweating, exophthalmos, Von Graefe's sign, Stelwag's sign; also that

³ University Medical Magazine, Philadelphia, 1896-1897, ix.

⁴ Monats. f. Geb. u. Gynäk., 1895, Bd. I.

⁵ Loc. cit., 1897, iv.

⁶ American Journal of Obstetrics, 1898.

⁷ Medical Press and Circular, June 25, 1902.

⁸ Du Duclanoma Malin, Paris, 1900.

⁹ American Journal of Obstetrics, 1898.