ELEVENTH ANNUAL
ARTHUR PURDY STOUT SOCIETY

SEMINAR

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DISCUSSION OF CASES

- by -

Arthur Purdy Stout
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INTRODUCTION

The cases that are included in this year's Seminar are of two types: there is one group composed of cases that are rare, unique or difficult to recognize; a second group consists of cases that are not difficult to recognize but which are unusual because of the site in which they are found, their biological behavior or for some other reason. As usual I am again astonished at the ease with which it is possible to find educational tumors for these seminars of ours; the only difficulty comes from the necessity of finding material enough to furnish a sufficient number of slides for the sets. It is a pity that you are not furnished with the special stains available to me for the interpretation of these problem cases. While they do not always help in making a diagnosis, they do have the importance of giving one a more comprehensive idea of some of the growth features which are valuable in aiding one to interpret the biological relationships of the tumor and its environment.

Arthur Purdy Stout, M. D.
Microscopic Observations:

This tumor is composed of cords of rounded and polygonal cells of an epithelial aspect which at times form gland spaces. Mucicarmine stain shows reddish material in some of the cells and within some of the gland spaces. On one surface there are differentiated non-neoplastic mucous secreting glands and the tumor seems to be intermingled with these. The trichrome stain shows that there are a few strands of smooth muscle at the base of the glands.

Discussion:

The position of this tumor near the vaginal introitus on the anterolateral vaginal wall is important for several reasons. In the first place, its position coupled with the fact that there was no indication of uterine involvement seems to indicate that it is a primary vaginal tumor. If we examine the literature on the subject of primary vaginal adenocarcinomas we find in the first place that they are very rare. In the first edition of his book Willis refers to only nine vaginal adenocarcinomas as probably arising from Gartner's duct. Gartner's duct is the vestigial remnant of the Wolffian or mesonephric duct in the lateral vaginal wall. It is generally found in the fornices adjacent to the cervix and that is the position of most of the primary vaginal adenocarcinomas believed to have arisen from that source. But this present tumor is down near the introitus so that we should seek for some other explanation for it.

There are two other possibilities. According to Dockerty, Pratt and Decker, primary adenocarcinoma can arise from endometriosis. Such cases, however, have almost invariably been found in the rectovaginal septum. The third possibility is an origin from adenosis of the vagina. This rare condition according to Plaut is a permeation of the vaginal wall by glandular structures. It is possible for adenocarcinomas to arise from this source; Plaut and Dreyfuss believe it is the commonest source for adenocarcinoma of the vagina. They believe the glands in such adenosis are derived from Müllerian epithelium which takes part in the formation of the vaginal epithelium. A very nice discussion of the whole subject of vaginal carcinoma is contained in a recent paper by my friend Dutta Chaudhuri.

Since our section shows these vaginal glands, it seems most probable that this adenocarcinoma arose from them. There are three other adenocarcinomas of the vagina recorded in our files. P&S 23148 developed in the left posterior vaginal wall at the introitus, measured 11 x 9.6 x 8 cm, and was sharply circumscribed. It recurred and five years later was treated by abdomino-perineal resection. During the succeeding 7 years more recurrences were removed at four different times. This is probably a case arising in vaginal adenosis. Plaut and Dreyfuss remark that these tumors in spite of their histological characteristics of malignancy are apt to have a relatively benign course. P&S 37696 developed in the rectovaginal septum of a 43 year old woman. It infiltrated both the rectum...
and the cervix. F&S 58721 was a small nodule in the formix of a 58-year-old woman. She had previously had a hysterectomy for adenocarcinoma. The only reason for suggesting this might not be secondary from the uterus was the fact that the tumor was papillary and a majority of the Gartner's duct carcinomas have papillary areas.

Arthur Purdy Stout, M.D.

References:


Benign Mesonephroma? (Adenoma) of Female Urethra

MICROSCOPIC OBSERVATIONS:

This section shows an adenomatous growth in which spaces are formed. The larger ones are lined by a single layer of elongated cells of a most unusual appearance. They are often club shaped with the thicker blunt end containing the nucleus toward the luminal pole while the deep portion fixed to the wall is narrower and sometimes tapers to a tail-like appendage extending into the surrounding stroma. This is reminiscent of the myoepithelial tails of apocrine sweat gland cells. These tails are only seen occasionally in tangential sections. In many of the larger spaces and all of the small rounded acini the cells have been flattened and have lost all of the above described characteristics. A few of the smaller acini contain a stringy material tinged a faint pink with mucicarmine and a more distinct blue with trichrome. These features are somewhat like the benign mesothelial or mesonephric tumors lying beneath the mesothelium of the uterus, tubes and ovaries. None of the cells shows any evidence of secretional activity. The larger spaces are surrounded by a substantia propria containing many capillaries and sometimes mononuclear inflammatory cells. The whole mass is enclosed in denser fibrous tissue containing slender scattered bands of smooth muscle. There is no evidence of malignancy.

DISCUSSION:

This appears to be a benign epithelial growth connected with the female urethra in its outer half. When I sought to find reports of benign tumors of the female urethra, I could find hardly any outside of caruncles. There are plenty of papers dealing with the various kinds of malignant tumors but if benign tumors of this sort have been described, I have not succeeded in finding any, although I admit I have not made an exhaustive search. The nearest approach to it was an adenocarcinoma of the female urethra reputed to have arisen from a urethral gland adenoma by Walker and Huffman. I consulted von Mollendorff and found exceedingly little about glands in the female urethra. He says that sometimes there are crypt-like depressions of the surface epithelium and occasionally acinar structures are found posteriorly near the bladder corresponding with the glands of Littre in the male. He does not refer to Skene at all. It would seem therefore improbable that this tumor has arisen from the urethral glands although this possibility cannot be excluded.

Of the glands found in the vagina we can certainly exclude endometriosis and vaginal adenosis. It does not at all resemble an endometrioma, nor are the glands at all like those found associated with the carcinoma in Case One. Can this be a mesonephric tumor? In so far as the smaller acini lined by flattened cells are concerned, they look very much like those found in adenomatoid tumors which are now being accepted as being derivatives of the mesonephric duct. I have looked through a number of our cases of this sort and have not discovered any that had the club-shaped cells found lining some of the larger spaces of this tumor. It would be fantastic to suggest that this is a sweat gland tumor so I suppose this had better be considered a benign mesonephroma, i.e. a Wolffian tumor of the urethra. I think it must be unique.

Arthur Purdy Stout, M.D.

(Please see next page for references)

MICROSCOPIC OBSERVATIONS:

By the use of special stains it is possible to learn that this strange tumor is composed of cords of cells of various shapes. The cords are separated one from the other by fibrous tissue but there are no fibers around the individual cells. These are for the most part round to spindle shaped or polymorphous. Toward one end the cells tend to have a rather clear cytoplasm but for the most part the cytoplasm is a pale pink. The cells do not appear anaplastic and do not have large nucleoli. The mitotic rate is very variable from 1 in 20, to 1 in 3 high power fields. At wide intervals a solitary well differentiated tube lined by low columnar cells is seen. Sometimes these cells secrete mucicarmineophilic material and are not ciliated. Some of these seem distinct from the surrounding tumor cells, others blend so closely with the surrounding cells as to be almost indistinguishable from them. Occasionally a macroscopic cyst filled with mucin has been formed.

DISCUSSION:

Tumors of the uterine tube are almost all carcinomas of the papillary type with or without squamous metaplasia. Since this is an epithelial tumor it seems essential to turn to some embryonal structure to account for it. The development of the female pelvic genital tract is traced to the fusion of some of the pronephric tubules to form the mesonephric duct. This develops a system of mesonephric tubules, later paramesonephric ducts are formed bilaterally and from the cephalic unfused portions of these are derived the uterine tubes. Novak et al have published a group of tumors of the broad ligament, uterus, cervix and vagina which they believe are of mesonephric origin. However, none of their tumors look like this one and they give no examples of such tumors developing in the tube. I have searched gynecological pathologies and other publications in which tumors of the tube are mentioned and none has described a tumor resembling this one. I understand the sections have been submitted to Arthur Hertig who is reputed to have stated he never saw a tumor like this. Although this tumor differs from the appearance of the reputed mesonephric tumors in other organs, it seems to me that it might be a derivative of remnants of the embryonal paramesonephric tubules in the tube and I make the tentative suggestion that it be called a paramesonephroma of the uterine tube. Since we have no background of experience for this tumor as to its expected biological behavior, we can do no more than guess about its malignancy. Since the cells do not appear anaplastic, I will guess that it may not be malignant but certainly the presence of mitoses gives us no right to exclude the possibility of malignancy.

Arthur Purdy Stout, M. D.

Reference:

Leiomyoma of Uterus (in Pregnancy)

MICROSCOPIC OBSERVATIONS:

This tumor seems to be composed of rather large cuboidal and polygonal cells with rather large nuclei but small nucleoli. The cytoplasm is practically amphophilic. Occasionally one sees intracytoplasmic fibers but they do not stain like myofibrils. Rarely a single cell tends to be somewhat elongated. Each cell seems surrounded by reticulin fibers. The tumor is moderately vascular. I have had great difficulty in finding even one mitotic figure. The tumor is sharply circumscribed but there is no capsule.

DISCUSSION:

It is always interesting to see a tumor in a pregnant uterus and this tumor has the added interest that its exact nature is not at once apparent. We can believe that this is a pregnant uterus for the normal musculature adjacent to the tumor shows the physiological swelling of the cytoplasm characteristic of pregnancy. The tumor, in spite of the round shape of most of the cells and the absence of any intracellular myofibrils that I can detect, must be a smooth muscle tumor. We have seen too many uterine and gastro-intestinal tumors that looked like this but also had a few cells that were elongated and contained myofibrils to have any hesitancy about calling it a smooth muscle tumor and benign. The only suggestion I can offer to explain the marked difference between this tumor and an ordinary leiomyoma is to recall the fact that vascular smooth muscle cells and pericytes must be closely related and that this tumor's cells have approached more nearly the appearance of pericytes. This is emphasized by the fact that each tumor cell is enclosed in a reticulin sheath.

It is of interest that sections of this tumor were submitted to the late Dr. Emil Novak and to Fred Stewart. Dr. Novak is reputed to have interpreted it as a pseudodecidual reaction in an area of adenomyosis. Dr. Stewart suggested it was a leiomyoma showing the effects of pregnancy. There is no proof that this lesion has occurred in a focus of adenomyosis and I would not want to accept that as tenable in a tumor 9 cm. in diameter unless there were some adenomatous features. I agree with Fred Stewart it is a leiomyoma, but it is unnecessary to describe its appearance as a pregnancy effect when we have plenty of leiomyomas which have assumed this appearance without any pregnancy.

Arthur Purdy Stout, M. D.
Osteogenic Sarcoma of Humerus with Undifferentiated Metastases

MICROSCOPIC OBSERVATIONS:

The slides made from the tumor of the humerus at the time of amputation show a characteristic malignant osteogenic sarcoma. The tendency of the tumor to form atypical osteoid is obvious and there can be no question about the tumor's nature. It is to be noted however that there are areas where differentiation is lost and the tumor consists entirely of undifferentiated rounded cells. Sections made from the recurrence show almost complete lack of differentiation. The rounded cells grow in masses and cords and the reticulin stain shows that no fibers are formed by the cells; the cords of cells are separated by fibrous tissue but there are no reticulin fibers among the cells.

DISCUSSION:

This case has been included not because there was any difficulty with the original diagnosis of osteogenic sarcoma but because the metastatic tumor has become so undifferentiated that one would have the greatest difficulty in guessing the nature of the tumor from the metastasis. One would have to think of reticulum cell sarcoma, metastatic neuroblastoma, and even embryonal round cell rhabdomyosarcoma. If I saw the metastasis alone and knew nothing about the primary growth, I doubt very much if I would have the intelligence to think of osteogenic sarcoma, although perhaps now I have seen this case I might recall it and think of that as a possibility.

Arthur Purdy Stout, M.D.
Microscopic Description:

The section shows a proliferation of bony trabeculae which in some places enclose masses of differentiated cartilage. In many places there is a meshwork of bone trabeculae both with and without cartilaginous inclusions. The marrow spaces are of variable size but in most areas they are filled with a proliferation of nondescript rather large cells of many different shapes. Associated with them are occasional small multinucleated cells which look like osteoclasts. There is no calcification of this tissue and there are no areas resembling the chondroblastoma tumors described by Jaffe and Lichtenstein. No mitoses are recognized.

Discussion:

I find this tumor hard to classify because it is unlike any of the osteochondromatous, chondromatous and chondromyxoid tumors described. There is much too much bone in it. It should not be called osteochondroma or chondroma because of the giant cell proliferation in the marrow spaces, and as there are no myxoid areas it cannot be classified as a chondromyxoid fibroma. Because of the small amount of giant cell tissue which I believe is benign and not malignant, I finally decided to call this a benign chondroblastoma of an atypical variety.

Codman Coley and Jaffe found almost all of their cases involving the epiphyses of long bones and that is another reason that made me hesitate to accept this case in the chondroblastoma category. However, in our files in addition to two cases involving the humerus, two in the femur, one each in the tibia and fibula, we have one acceptable case involving a phalanx of a toe. Since Dahlin says he has found two cases involving a rib, it seems justifiable to believe that it is not impossible for this tumor to develop in a rib.

References:


Osteogenic Sarcoma (Osteolytic) of Ilium

MICROSCOPIC OBSERVATIONS:

The many fragments of this specimen show a growth which has two main variants. In one there is a great deal of hemorrhage and the cells are irregularly rounded for the most part with the formation of many giant cells. A background of spindle shaped cells exists but is inconspicuous. However the Laidlaw stain shows that there are a great many more reticulin fibers than one would suspect in the H&E preparation. The cells appear to me to be neoplastic; many have anaplastic nuclei with large nucleoli. Few of the giant cells suggest the appearance of a benign giant cell tumor. The other variant is not hemorrhagic, shows very few giant cells, and the cells are for the most part spindle shaped, rather large, and are arranged in interlacing bands. The reticulin stain shows that there are many accompanying reticulin fibers as in a fibrosarcoma. In both areas mitoses are present but do not average more than 1 in every 10 high power fields. There are occasionally found transition areas between the two tumor variants. I could find nothing that I could recognize as osteoid formation.

DISCUSSION:

It seemed to us important to include this tumor for several reasons, especially to decide on the proper name for it, and in view of the excellent result, whether or not it is a true malignant tumor. Evidently those who have studied it before us are unanimous in giving it a name signifying malignancy. It seems to me this is a justifiable assumption if we can rely on the morphological features of anaplasia shown by many of the cells. I have to say that tumors histologically resembling this one have metastasized. The giant cell areas look to me like a number of osteolytic osteoblastic sarcomas both those primary in the bone and those in the soft tissues. The fibrosarcoma-like area raises the question of whether or not there is such a tumor as a central fibrosarcoma of bone. Certainly there have been tumors described which seemed to be wholly fibrosarcomatous both in the primary and in the metastases without any reported evidence of osteoblastic activity. I cannot quarrel with those who call such tumors fibrosarcomas. I make a mental reservation, however, and place such tumors in a separate category from the non-osseous fibrosarcomas because I suspect that if a protracted search was made somewhere there would be discovered evidence of osteoblastic activity. In this case the giant cell area is so different from ordinary fibrosarcomas that I feel justified in classifying this tumor as an osteolytic osteogenic sarcoma.

It is evident that this tumor moves more slowly than many osteogenic sarcomas. Could it have originated in an area of fibrous dysplasia? This is possible but without proof in the sections we cannot say that it did. Irrespective of this point the biological progress has been slow and so far there has been no evidence of metastasis and the radiotherapy has apparently controlled the tumor. Whether or not the tumor has been completely destroyed remains to be seen.

Arthur Purdy Stout, M. D.
Leprosy of Sural Nerve

MICROSCOPIC OBSERVATION:

This tiny biopsy from the sural nerve is only large enough to show that the nerve is the site of a granulomatous non-neoplastic lesion in which most of the inflammatory cells are mononuclear of the lymphocyte class with a very rare neutrophile, that there has been some proliferation of fibroblasts and that a number of histiocytes are present. Some of these have gathered together into a tubercle without any central necrosis but with a multinucleate giant cell. The Ziehl-Neelsen stain is negative.

DISCUSSION:

My experience with lesions of this sort is limited but so far as I know if one has a granulomatous lesion of this sort involving a nerve it is safe to call it leprosy even if one fails to find any acid fast Hansen's bacilli. Because we see lesions of the nerve in Hansen's disease so seldom, we thought you would like to have this for your records.

Arthur Purdy Stout, M.D.
Granuloma (type?) of Palm of Hand

MICROSCOPIC OBSERVATIONS:

This is a highly complex non-neoplastic lesion recurrent in the thenar eminence. It involves chiefly the corium where it is granulomatous. It has produced quite large areas of necrosis in the stroma of the corium. There are extremely few inflammatory cells but a fair number of histiocytes. Giant cells are rare. The lesion has produced some thickening and fibrosis of nerves but no intraneural granulomas. The Ziehl-Neelsen stain is negative. It has also produced complete fibrous obliteration of some veins.

DISCUSSION:

About 16 months ago I was called down to a doctor's office to see this young woman. The idea prevailed at that time that she had some kind of a neoplasm and the surgeon wanted to know whether it was benign or malignant. He had the sections at that time from a former operation. I was told she was a missionary nurse from somewhere in Africa. I asked if the possibility of some disease indigenous to the area where she worked had been explored, and was assured that they felt able to exclude all such conditions. As I recall the section I looked at told me nothing except that I could not recognize any tumor. I thought it might represent some sort of histiocytic proliferation. I cannot recall whether I recommended any further operation at that time but I was against amputation of the hand. Evidently the condition has persisted and has led to an excision of the tissue shown in the seminar slide. It is evident from the history that someone believes the present lesion represents leprosy. I supposed this might be the nodular form of leprosy, but since Dr. Richter tells me this has been submitted to the solons of the AFIP who deny that it could be leprosy, I bow to their superior wisdom and abandon the idea.

I have to confess that I never before recall having seen a lesion like this, and I have no idea what it is.

Arthur Purdy Stout, M.D.
Microscopic Observations:
This tumor has a very familiar pattern. It consists of bands of dense collagen and reticulin fibers accompanied by spindle-shaped cells which course in various directions and instead of being sinuously intertwined, bend sharply to one side when two or more of them meet head-on. This produces a whirlpool, pinwheel, spiral nebula or storiform pattern that is very striking. At these meeting points there is often a dense amorphous mass of connective tissue which possibly is responsible for the turning aside of the fibrous bands. Often also a number of lymphocytes appear immediately adjacent to the central focus. No foam cells or pigmented cells are observed. A fat stain shows a few droplets of lipid in an occasional spindle-shaped cell. The fibroblasts are not in any way anaplastic and if there are any mitoses I have not found them.

Discussion:
We can at once dismiss the possibility that this is a fibrous mesothelioma because it makes a very definite pattern whereas the characteristic of the benign fibrous mesothelioma is that it has no set pattern of growth at all. The tumors which grow with this pattern which is so striking have long interested me. In the past I think we have tried to conclude that the tumors which grow with this pattern are all alike and must originate from a single cell form which most authors have believed is a fibroblast. In the sense that the tumor cells are capable of forming connective tissue fibers this is undoubtedly true. But it is a well-established fact that cells other than fibroblasts can function as such, for example the Schwann cell and the mesothelial cell. For example, Bednár has recorded nine cases of tumors of the skin which have this pattern for which he has coined the descriptive adjective "storiform" from storia meaning a matting. Five out of nine of these tumors had melanin-containing cells. He believes that such tumors are in reality neurofibromas and expresses the opinion that one of them could be regarded as a blue naevus. He acknowledges that the fibrous xanthoma and the so-called dermatofibrosarcoma can have this pattern and are probably not neurogenous tumors. One has to read his article very carefully for the title suggests that he believes all tumors with the storiform pattern are in reality neurofibromas, which is not true. I agree with him that some blue naevi can assume this pattern but I would prefer to call them blue naevi rather than storiform neurofibromas. It is of great interest that tissue culture of a blue naevus explanted by Dr. Ozzello and studied by Margaret Murray has grown Schwann cells, melanoblasts and neuroblasts with neurites thus confirming the neurogenous origin of the blue naevus expressed by Masson. My belief is that this is a pattern of growth than can be exhibited by fibromatoses, by fibrous xanthomas, by malignant fibrosarcomas and mesenchymomas and by blue naevi and that the decision as to which category to assign any given tumor showing the pattern must depend upon other features. In the present case it seems to me that the tumor is benign, there are no associated foam cells and there is no reason to assume it has a neurogenous origin. Finally the tumor is not mixed. For these reasons I will choose to call it a fibromatosis of the lung.

Arthur Purdy Stout, M.D.

Reference:
Fibrosarcoma and Squamous Cell Epithelioma
(Collision Tumor) of Bronchus

Microscopic Observations:

The major portion of this tumor has the aspect of a sarcoma. The cells for the most part are spindle-shaped, they have some tendency to grow in bands accompanied by reticulin fibers. The nuclei are anaplastic and sometimes bizarre so that giant forms occur with one or more large extremely anaplastic nuclei. Mitoses vary from one in every high power field in the better differentiated areas to three or four in every high power field in the giant cell areas. There is nothing to suggest that these are lipoblasts, rhabdomyoblasts or epithelial cells. They seem to me definite fibroblastic sarcoma cells. The unusual feature of this tumor concerns the overlying bronchial mucosa which has undergone squamous metaplasia and in it has developed a squamous cell carcinoma with anaplastic cells which has penetrated into and invaded for a short distance the fibrosarcoma. By measurement the deepest point of penetration in my section is 6 mm., which is sufficient to convince me that this is a true invasive epithelioma and not simply exaggerated squamous metaplasia with in-situ epithelioma.

This patient died shortly after lung resection and at autopsy there were metastases in bone marrow and a carinal lymph node. The metastases were entirely fibrosarcomatous.

Discussion:

In the primary tumor involving the bronchus it is quite evident that there are two tumors of quite different type, a large malignant fibrosarcoma and a small squamous cell carcinoma of the bronchial mucosa which has penetrated into the larger tumor for a distance of 6 mm. and which was not represented by metastases. The question of how to interpret this tumor has been discussed in a previous report by Bergman, Ackerman and Kemler. They point out that to call a tumor a carcinosarcoma one must first obtain convincing evidence that there are both carcinomatous and sarcomatous elements present, and further that the two elements must be inextricably intermingled throughout most of the tumor. On the other hand, if the carcinoma and sarcoma are present and in contact but only inconspicuously intermingled along the line of contact, they should be considered two independent tumors in collision, i.e., a collision tumor. They felt that their two tumors were both true carcinosarcomas. Of the twelve previously reported carcinosarcomas of the lung they felt that eight deserved that classification and four were only collision tumors. It seems to me that the present lesion is an example of collision tumor.

We must also discuss the possible relationship of this present tumor to Lane's pseudosarcoma associated with squamous cell carcinoma. This is a subject that has long interested and puzzled me. Obviously the present case does not belong in that category for the sarcoma was real and metastasized while the squamous cell cancer did not. Moreover, the sarcoma was large and infiltrating while in the two cases reported by Lane the pseudo-sarcoma was generally a polypoid growth. I only wish to note here that while I believe in the pseudosarcoma, I was once fooled by one in the pharynx which turned out to be a leiomyosarcoma and metastasized to the neck nodes and lungs.

Arthur Purdy Stout, M.D.

References:


Neurilemoma of Stomach

Microscopic Observations:

This tumor interests me very much and it is important to emphasize its salient features. It is truly encapsulated. It is composed of two types of tissue. By far the commonest type is very loose-textured and characterized by innumerable microscopic cystic spaces. In a few places small macroscopic cysts have formed no doubt by the coalescence of the tiny cysts. The cells in these microcystic areas are generally solitary and are either elongated straight spindles or else they have been angulated by pressure of the cysts or the intracellular fluid. There are a few rounded or polymorphous cells and an occasional giant cell. The cytoplasm of all the cells is slightly acidophile but not fibrillated. A very striking feature is the presence of a thick collagen sheath around all of the blood vessels whether capillaries or larger. The second type of tissue is more solid and consists of spindle shaped cells in more solid formations with a suggestion of palisading of nuclei.

Discussion:

While the literature is filled with innumerable reports of Schwann cell tumors of the stomach this is the first case of what I can regard as a neurilemoma of the stomach I have ever seen. Its diagnostic features are unmistakable. It is an encapsulated tumor, it is divided into types A and B tissue, the latter with microcystic degeneration and its blood vessels have thick collagen collars about them. The type A areas with a tendency to nuclear palisading might be confused with a leiomyoma but leiomyomas are not encapsulated, their vessels do not have thick collagen sheaths and they do not show the type of microcystic degeneration shown here. The only other neurogenous tumors of the stomach I have encountered have been a handful of neurofibromas, most of which developed in cases of von Recklinghausen's disease.

I have done battle for a long time on this subject of neurilemmomas of the stomach but I must say with very little success. It is so easy for authors to back up reports on gastric neurilemmomas with a formidable array of "sheep" literature; that is to say, follow the leader technique, which can have disastrous results if the leader is in error.

Arthur Purdy Stout, M. D.

Reference:

Microscopic Observations:

This tumor has a very definite pattern. It consists of groups of closely packed round cells with amphophilic or basophilic granular cytoplasmic areas. The granules do not always occupy all the cytoplasmic area but sometimes leave clear areas in it. The nuclei are about the same size or sometimes slightly larger than the nuclei of the parotid acinous cells. Scattered among the cells are many rounded spaces; some of these appear to be acinous lumens. I have not detected any mitoses. These tumor cells are gathered into nodules or lobules separated one from the other by a fibrovascular framework. Nodules of tumor cells have insinuated themselves between lobules of parotid salivary gland.

Discussion:

This tumor has all the characteristics of an acinous cell carcinoma. Obviously it is not an oncocytoma because the granules are not strongly acidophile. I believe it is probably a recurrence of a primary tumor removed four years ago. It would be easy to mistake this tumor for salivary gland tissue if one was not acquainted with this variety. There are some nice pictures of this tumor type in Frank Foote's fascicle but not very much positive information. However, in the paper by Godwin, Foote and Frazell we find that out of 27 cases 15 had local recurrences and of the recurrent cases four had metastases. All four had them in the lungs, one had subcutaneous and regional lymph nodes as well and one other had bone metastases in addition to the lung.

We happen to have accumulated 30 of these tumors; 6 from the Presbyterian Hospital and 24 from other sources. Thirteen cases were males, 14 were females, and the sex of the other 3 are not known. Twenty-two cases were in the parotid gland, none in the submaxillary gland, and two in the sublingual gland. The others were distributed as follows: two in the tongue and one each in the pharynx, the floor of the mouth, the palate and the lower lip. The ages were as follows:

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<tr>
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The cases under twenty were: two in the parotid aged 13 and 18 years of age, and one in the tongue aged 12 years.

There is not very much information about the clinical behavior as no recent attempt has been made to follow these cases. Four of the patients are known to have had local recurrences and four are known to have metastases. Two of these patients had metastases to the cervical lymph nodes. One had metastases to the bones and lungs in addition to a local recurrence, and the fourth patient had a metastasis to the abdominal wall resected and died 23 months after removal of the parotid tumor with evidences of intra-abdominal masses. There was no autopsy to prove this.

(continued)
Frank Foote has chosen to include the papillary carcinomas of the salivary glands with these acinous cell carcinomas. We have chosen to keep them separate although they may be simply variants of the acinous cell tumors. We have made the diagnosis of papillary carcinoma of the parotid gland seven times. One of these had metastasized to the neck. It was of interest to me to learn what names had been used for these tumors in the past. As far as I can tell I think they were probably called adenoma, oxyphil adenoma, oncocytoma and papillary cystadenoma with clear cells. I was well aware of this kind of tumor in salivary tissue and for want of a better term used to call them clear cell carcinomas. I agree that they are acinous cell carcinomas but I insist on calling them that instead of "acinic", a word which does not exist. When there is a perfectly good adjective available I can see no reason for coining a non-existent and illegal word for the purpose.

Arthur Purdy Stout, M.D.

References:


Malignant Mesenchymoma of Thigh

Microscopic Observations:

This tumor is hard to describe because the histological picture varies so much as one passes from one field to another. Perhaps the dominant feature is the formation of spindle cells which sometimes grow in interlacing bands but at other times have no special arrangement. Trichrome shows that the cytoplasm of these cells tends to be pinkish and granular but usually without any intracellular fibrils. Laidlaw silver stains show in one slide long reticulin fibers paralleling the long axis of the tumor cells but elsewhere this feature is not seen. Instead fibers are wrapped about every cell as in a fibrosarcoma. In many places the cells are without any definite pattern. Sometimes the cells are not accompanied by any fibers at all and there are two small foci where the cells are small, rounded and granular. In many areas there are thicker collagen bands, sinuously twisted among tumor cells, that give a vague suggestion of osteoid but without any proof of it. There are even areas where the cells are stellate even though accompanied by prominent collagen fibers instead of a myxoid stroma. There are not many mitoses but the anaplasia of many of the nuclei leave little doubt that the tumor is malignant. That nerves are present are seemingly not affected by the tumor. Scharlach R stains show rare foci where a few of the cells have droplets of lipid in the cytoplasm. These are usually in areas of degeneration.

Discussion:

We have included this case in the seminar not because it is an unusual tumor but because it poses the extremely difficult problem of what to call it. The prominent candidates for consideration are fibrosarcoma, malignant Schwannoma and possibly leiomyosarcoma. But I cannot bring myself to accept this tumor as an example of any of these three because of the many peculiarities of growth that it exhibits. Yet with all these variations it does not produce any definite recognizable elements of different kinds. According to the criteria that I established originally for mesenchymomas, one should be able to find in addition to fibrosarcoma, two or more different recognizable malignant tumor types that ordinarily are not found together before applying the term malignant mesenchymoma to any neoplasm. One must also not count benign appearing metaplastic elements that may appear in some malignant tumors. For example, osseous metaplasia in a liposarcoma does not make the tumor a mesenchymoma. If these rules are strictly applied this present tumor could not be called a malignant mesenchymoma because although its elements appear varied they cannot be recognized and named. I have encountered this dilemma before and have gradually decided to relax the criteria for malignant mesenchymoma so as to admit a tumor that seems to be composed of more than one different malignant element the exact nature of which I am unable to recognize. Therefore I have chosen to call this tumor a malignant mesenchymoma.

Arthur Purdy Stout, M. D.
**Solidary Benign Fibrous Mesothelioma of Bladder**

**Microscopic Observations:**

This tumor has a fibrous framework and is composed of cells having in general a spindle shape usually without blunt ends. Usually they do not form cords but seem to be separated and jumbled by the very considerable amount of collagen and reticulin fibers between and around them. Sometimes the cells are cut transversely and appear rounded. Mitoses are very hard to find. The cell cytoplasm is much split up by empty spaces and it is hard to detect. I could not recognize either granules or myofibrils. In some sections the tumor is very vascular but all of the many capillaries have thick collagen sheaths about them. I understood that the tumor was in the muscularis of the bladder at its apex. At my request sections were cut from the junction of the tumor with the bladder wall. These show that tongues of tumor extend between broad masses of bladder muscle so that there is a sort of interlocking between the two but it is doubtful if it should be called invasion. Large vascular sinusoids coming from the bladder wall extend into the tumor in one section.

**Discussion:**

When I first saw sections of this tumor and learned that it sprang from the dome of the bladder in the midline, I thought I was examining a smooth muscle tumor probably associated with urachal elements. I looked up the available literature to learn what I could from it about urachal mesenchymal tumors. I could find extremely little. The various texts have more or less to say about benign and malignant epithelial urachal tumors but as far as I can learn Begg in 1931 is the only person who has made a comprehensive report on all varieties of reputed urachal tumors. He recorded 44 cases from the literature divided as follows: 3 fibroadenomas, 4 simple adenomas, 19 carcinomas, 6 mixed tumors, 4 fibromas and myomas, and 6 sarcomas. I have not studied the details of the mesenchymal tumors so that I do not know whether or not they are authentic. I did not do so because when I got the additional sections of different parts of this tumor I decided that I could not make this tumor into a leiomyomatous growth but must consider much more seriously my second choice for it which was benign solitary fibrous mesothelioma. The major portion of the growth is very definitely fibrous and grows without any set pattern at all, varying absolutely from field to field. I am disturbed by the relationship of the tumor to the bladder musculature because the interdigitation between muscle and tumor is not a feature found in the benign fibrous mesotheliomas I have studied. Yet this is quite different from the malignant fibrous mesotheliomas so I doubt if it can be considered malignant.

I have to suppose that by chance this mesothelioma has sprung from the peritoneal mesothelium covering the dome of the bladder at the very site where one might expect to find urachal remnants but that probably it has not developed from urachal elements.

Arthur Purdy Stout, M.D.

**Reference:**

ARTHUR FURDY STOUT SOCIETY

SEMINAR

June 7, 1958

Richmond, Virginia

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Case 1 - P&S 58601

Contributed by Dr. Saul Kay
(G-57-8397)

HISTORY

A 50-year-old white woman, followed for 6 years by her private physician for uterine myomas. The menses had ceased one year prior to admission, but recently the patient had begun to bleed slightly per vagina without passage of clots. She was admitted for a diagnostic curettage and possible abdominal hysterectomy on Nov. 10, 1957.

On physical examination, an irregular, hard movable mass was palpated in both lower quadrants. This seemed to be attached to the uterus. On vaginal examination under anesthesia an indurated crater was noted immediately within the vaginal introitus, on the lateral anterior vaginal wall. The crater measured approximately 2.5 cm. in diameter. There was no involvement of the meatus. The upper portion of the vagina was completely clear. The uterus was moderately enlarged, nodular and freely movable. There were no palpable adnexal masses, induration or fixation. A frozen section examination of the tissue from the vaginal ulceration showed a glandular carcinoma. The patient was treated by uterine and colpostat radium (210 mg.), vaginal interstitial radium (23 mg.) and pelvic roentgen irradiation (4500 roentgens). The lesion appeared to respond rather favorably to the irradiation, and she was discharged December 13th, to be followed as an out-patient.

Path. - Gross Description:

The specimen consisted of 4 pieces of tissue, the largest 1.7 x 1.2 x 0.4 cm. The tissues were firm with a smooth, glistening mucosal surface. The convex surface was ragged and hemorrhagic. In addition, there were curettings from the endometrium which formed a mass 0.9 x 0.7 x 0.4 cm.
Case 2 - R&S 59768
Contributed by Dr. Sidney Gellman

HISTORY:

Female, age 54.

Patient had been examined previously by same family physician gynecologically, and nothing found until two months before admission. Patient felt something in vagina; a small mass, hard and lobulated, was found in the anterior vaginal wall under the urethra. Gynecological examination showed normal external genitalia, non-parous tight vagina. A mass about 2-2½ cm was noted under urethra with vaginal mucosa slightly ulcerated. The cervix, uterus and adnexae were negative. A smear from ulcerated area was negative for cancer cells. Ureteroscopic and cystoscopic examinations did not show any diverticulum. Patient had menopause 10 years previously.

Procedure:

The vaginal mucosa lateral to the mass was cut longitudinally and the anterior vaginal mucosa undermined with ease. A catheter was placed in the urethra and its posterior attachment felt to be a little adherent. The posterior wall was separated by sharp dissection and the urethra entered with an opening of possibly 1/2 cm. The mass was removed in toto and urethra plicated over a catheter in 2 layers.

Specimen:

The specimen consisted of a 2 cm. oval grey mass. The cut surface resembled a sponge with varying sized and shaped spaces, some containing a blood-tinged fluid.
Case 3 - P&S 57920

Contributed by Dr. Raffaele Lattes
(Gyn. Path. 57-2319)

HISTORY:

Patient: Female, age 49.

4-4-57: CC: Bleeding for 2 wks. in Jan. 1957.
Admitted to Gyn. Service for postmenopausal bleeding.

4-5-57: Operation: D&C; Biopsy of Cervix; Tamponade of Vagina.
Specimen: Curettings, cervical and endometrial, and cervical biopsy.

Diagnosis: Adenomatous hyperplasia of endometrium
Chronic cervicitis.

9-6-57: Admitted to HT with CC: "Spotting" 3-5 days week preceding admission.
LMP 1 1/2 years ago.
Operation: 9-7-57: Complete abdominal hysterectomy; bilateral salpingo-oophorectomy; Division of pelvic peritoneal adhesions; Prophylactic appendectomy.
Postop. " ": Adenomatous hyperplasia of endometrium; Pelvic inflammatory disease; Bilat. hydrosalpinx.

Specimen: Cervix, uterus, both tubes and ovaries, appendix.

Macroscopic: The specimen weighs 160 gms. It has been previously opened, and in the opened state, the entire specimen measures 19 x 9.8 x 4.4 cm.
Except for the presence of some Nabothian cysts, the cervix appears normal externally and measures, in its opened state, 5.1 cm. across. The endocervix appears grossly normal and is 2 cm. in length.
The endometrial cavity appears grossly normal and measures 4.3 x 2 cm.
The myometrium is normal and at its greatest thickness it measures 2 cm.
The right tube measures 10 cm. in length. The distal 6 cm. are swollen, measuring 1.8 cm. in diameter, shows dense adhesions to the ovarian tissue. The fimbriated extremity is not patent. A small hydatid of Morgagni is seen, measuring 1 cm. in diam. On opening the right tube, in its proximal portion, it appears to be normal, measuring 0.3 cm. in diam. On opening the distal portion of the tube, it is seen to be filled with liquid, brownish-colored blood and measures 1.7 cm. in diam. with a dilated lumen. There is some nodularity at its junction with the ovary.
The right ovary which can not be easily demarcated from the tube measures 4 x 2 x 2.5 cm. It has several clear-walled cysts, the largest measuring 1.3 cm. seen on its surface.
The left tube measures a total of 13 cm. in length. However, it is curved in a U-shaped fashion, completely surrounding the ovary. The proximal portion of the tube, measuring 4.5 cm. in diam., appears normal. The distal remaining portion of the tube is markedly swollen, with a thickened edematous wall bound by dense adhesions to the ovarian tissue. At its widest, the tube measures 3 cm. in diameter. On cutting the proximal portion of the tube, it is seen to measure 0.5 cm. in diam. The lumen is grossly ascertainable and is filled with fluid, brownish-red blood. The distal portion of the tube, on opening, is seen to have a thin wall. Within the wall is a yellow-white mass measuring 4 x 3 x 3 cm. having expanded somewhat when the tubal wall was cut away from it. This does not have the appearance of placental tissue. Proximal to this, gross clotted blood is seen.
The left ovary which is completely surrounded by dense adhesions, measures 4 x 2.5 x 1.5 cm. On cut surface it appears grossly normal.
The appendix measures 3.2 cm. in length by 0.4 cm. in diam. On cut section the lumen is seen to be patent.
Sections are from mass in left tube.
HISTORY:

Patient is a 37-year old female, three months pregnant.

Specimen is said to be a subserous fibroid.

Gross Description:

A circumscribed mass of tissue measuring 9 cm. in diameter.

On cut section it shows focal areas of greyish necrosis, while the rest of the tissue is pinkish and firm. Random sections taken. No gross evidence of malignancy.
This is the case of a 9-year old white girl who in January 1956 fractured the right upper humerus in a fall. This was set and failed to heal, developing an area of swelling and a draining sinus tract. One month later x-ray films showed further bone destruction and biopsy at the New England Deaconess Hospital were interpreted as showing giant cell tumor or osteogenic sarcoma. Amputation was advised. The patient refused surgery and received radiation, total dosage 5,200 r. The tumor failed to respond to radiation despite marked local radiation changes in the skin.

In August 1956 the patient was given Krebiozen without effect. The lesion continued to increase in size, leading to total disability of the arm. Persistent antibiotic therapy failed to heal the sinus tracts. The patient ran a persistent fever, and was admitted to Roswell Park in December 1956, and her parents finally agreed to surgery. A right interscapular amputation of the right forequarter was performed.

Three months following surgery the patient showed recurrent tumor masses along the line of incision, at the base of the right neck and around the right lateral thorax. These were subsequently biopsied and partially resected, but have since recurred. There is now a right hilar mass by x-ray. Except for this and the local changes previously described, the patient shows no other evidence of systemic or localizing disease (5-28-57).
HISTORY:

Patient is a 37-year old female.

The tumor was located at the anterior end of the right third rib. The mass was palpable over the costochondral junction. It was hard, immovable and non-tender. X-rays were interpreted as a chondroma of the rib.

(See x-ray photograph)
HISTORY:

Patient: Male, age 35 years.

Patient sought medical attention in December 1952, after 1 1/2 years of intermittent pain in the left groin. X-ray examination showed destruction of the superior ramus of the pubis.

Patient received external radiation, 1200 r. T.D. in one week with conventional x-ray therapy and was referred to M.I.T. where he received a T.D. of 6,000 r. in 6 weeks with rotational therapy.

Films 6 months later showed beginning recalcification of the osteolytic lesion.

In January 1956 symptoms of deep necrosis developed in the treated areas. This was treated with a variety of antibiotics and local applications of zinc peroxide, proteolytic ointments, cortisone and sulfa powder.

At the present time (April 1957) there is an area of atrophy and telangectasis about 8 cm, in diameter over the superior ramus of the pubis on the left. Centrally there is deep ulceration with a base of grey necrotic slough.

X-ray films taken in March 1954, March 1955, and February 1956 show progressive increase in density of the reconstituted body of the ramus of the pubis.

(See x-ray photographs)
HISTORY:

Male - age 42.

Patient complained of pain in leg on walking, with numbness of leg. Examination showed nodular thickening along the course of the sural nerve. The nerve sheath was opened, and two nodules removed from the inner side of the sheath. The nodules were soft, yellowish-gray, the larger one measuring 1.2 x 0.5 x 0.2 cm.
HISTORY:

Female - age 38.

Patient is a nurse who has spent many years in areas where leprosy is prevalent. A nodule was removed from the thenar eminence of the hand about one year ago.

The present specimen is from a recurrence at the same site.
Case 10 - P&S 58211
Submitted by Dr. Saul Kay
(S-57 7922)

HISTORY:

White male - age 49.

Patient known to have had coin lesion in the superior segment of the right lung for approximately 6 months. A chest x-ray some years ago known to have been negative. At thoracotomy a well encapsulated tumor 3.1 cm. in diameter was removed from within the pulmonary parenchyma of the superior segment. The surgeon swears that there is no connection to the visceral pleura. He did state that it appeared that a small bronchus seemed to enter the tumor mass. This was not verified either grossly or microscopically by the pathologist.

On cut section the tumor was solid, pinkish-grey, homogeneous and of rubbery consistency.
HISTORY:

Colored Male - Age 50 years.

Patient first had a positive biopsy on bronchoscopy and the diagnosis was an obvious squamous cell epithelioma. A total left pneumonectomy was then done and the entire left lower lobe was replaced by a huge tumor mass associated with considerable lipid pneumonia. No polypoid growth was found in any of the major bronchi. Tumor did, however, extend to involve the visceral pleura. None of 23 lymph nodes dissected showed evidence of metastasis.
HISTORY:

The sections are from a tumor of the stomach of a Negro woman, age 69 years. She had complained of abdominal pain for three weeks and there was a mass palpable on the left side of the abdomen. The tumor was attached to the anterior wall of the stomach in the mid-portion by a pedicle, approximately 1 cm. in diameter. The tumor measured 12 x 6 cm. The outer surface was smooth and grayish-yellow with an irregular lobular appearance. The structure was cystic and contained dark-brown fluid. The wall varied from one to several centimeters in thickness and in areas was soft and grayish pink. A portion of the underlying stomach wall was removed with the tumor but there was no evidence of abnormality in the muscularis and mucosa.
HISTORY:

Male - White - Age 34 years.

Patient was in good health except for a lump at the angle of the mandible on the left. This was slightly tender and the resident who examined him gave the approximate measurements of 1 x 1 cm.

Past history reveals that he had a tumor removed from the parotid region on the left, 4 years ago. The pathologic diagnosis on this was "Parotid Gland Tissue, No Disease".

The gross specimen was yellow-pink and roughened and measured 4.5 x 2 x 1.5 cm. On section, there was a central ovoid area, somewhat softer than the surrounding tissue; this was 0.7 cm. in diameter.
HISTORY:

White married female - Age 57 years.

Anemia - 2 months duration.

15 cm. mass inner aspect of right thigh, tender and hard.

Had a small lump in inner aspect of right thigh two years prior to admission. On admission there was a large mass about 14 cm. in diameter. The mass projected above the surrounding tissues. The skin was not reddened or adherent. The mass was not fixed to the surrounding tissue. Non-painful.

At surgery there was a large tumor mass on the medial aspect of the thigh just deep to the superficial fascia. It involved several of the adductor muscles of the thigh and extended posteriorly to surround the deep femoral artery, the adjacent nerves and as far posteriorly as the sciatic nerve. The tumor merged with the various muscle bundles and fasciae. The tumor was fairly soft and deep purple in color. It was not attached to the femur. A complete excision of the tumor was attempted following biopsy report of malignant tumor. On resection it was noted that the tumor could not be separated from the femoral artery and sciatic nerve.
HISTORY:

This 46-year old man complained of abdominal "tightness" during the past two months especially noticed after eating. A firm but freely movable mass was palpable in the suprapubic region described as the size and shape of a gravid uterus of 16 weeks. A roentgenogram of the abdomen showed a rounded mass in the lower abdomen displacing the intestines. Cystoscopy was negative. At operation a smooth round mass was found extending upward from the dome of the bladder in the midline. Except for one omental adhesion the mass was not attached to other structures. It was intimately attached to the bladder wall and a full thickness segmental resection of the dome of the bladder was necessary for its removal. It measured 15 x 13 x 9 cm. and was externally covered by serosa continuous with that of the segment of bladder. The mucosa of the bladder was adherent to the mass but intact. The central seven-eighths of the mass was opaque, slightly friable, dull yellowish-white tissue which was grossly and microscopically necrotic. At the periphery viable grayish-pink fascicular tumor was evident.