ARTHUR FURDY STOUT CLUB

SEMINAR

June 6, 1953

New York, N. Y.
Child died of recurrence of the tumor, and no autopsy was obtained.
CASE 1.  
Contributed by Dr. Robt. C. Horn  
University of Penna. Hospital  
Philadelphia, Penna.

HISTORY:  
A 42 year old female complained of intermittent diarrhea for 10-12 days. Physical examination showed a chylothorax and left ureter to be displaced laterally. At operation, a soft pulpy tumor lying between the aorta and ureter extended for an indefinite distance up-and-down. Chyle escaped from the cut surface. A biopsy was made.

CASE 2.  
Contributed by Dr. Saul Kay  
Medical College of Virginia  
Richmond, Virginia

HISTORY:  
A 50 year old white female had a mass in the left adnexal region for which an exploratory laparotomy was done. The mass proved to be of ovarian origin, and a total hysterectomy with removal of both adnexae was performed. The left ovarian mass was cystic and measured 13 cm. in diameter. On cross section, the cyst contained buttery material admixed with hair, but a considerable amount of solid tissue was present between the cyst.

CASE 3.  
Contributed by Dr. Homer Kesten  
White Plains Hospital  
White Plains, N. Y.

HISTORY:  
A 60-year old woman who went through the menopause at the age of 42, complained of a brief episode of bleeding 1 to 2 weeks before hospitalisation. There were no other symptoms. On physical examination, the uterus was slightly enlarged to size of 6-weeks pregnancy. Following curettage, a hysterectomy was performed.

CASE 4.  
Contributed by Dr. Saul Kay  
Medical College of Virginia  
Richmond, Virginia

HISTORY:  
A 22 month old male infant had a host of genito-urinary malformations; a perineal hypospadias and a horseshoe shaped kidney. On exploration only the left ureter could be identified. The bladder was opened and a tumor was seen to project into the lumen of the bladder from a pedicle. The pedicle arose from the wall of the posterior urethra. The tumor had somewhat the shape of a kidney and it was entirely covered by mucous membrane. After removal of the neoplasm, the opening of the right ureter was identified but it was not traced up to decide whether or not it communicated with the horseshoe shaped kidney.
Patient was discharged from Fitzsimons Army Hospital on 12 December 1952 on a retired status.

Physical examination was performed at Fitzsimons Army Hospital, 23 February 1953, with the following significant note: "There is evidence of surgical attack on the right chest as demonstrated by the absent 6th rib, and pleural reaction in the lower 1/2 of the right lung field. There is a right superior hilar shadow, probably tumor mass. Heart and remainder of the lung fields negative."

Following is copied from report sent by the Office of Chief Medical Examiner, City of New York:

"Deceased shared apartment with Richard Wickboldt since about March 15, 1954. At that time the deceased was apparently well and continued that way up until about 4 days ago he complained of a few pains in chest. He was on 100% disability from Army for cancer of lung (related to and by Richard Wickboldt). He was last seen alive by Wickboldt at 10 PM when latter went to work. Found unresponsive at 9 AM 6/17/54 and was DOA of ambulance. Also drinking heavily lately."

Autopsy was performed, and following is copy of lung findings: "Left lung lies free in the pleural cavity. There is about 200 cc. of soro-sanguinous fluid. Left lung 900 grams, reddish-gray to purplish-grey color. Slight amount of anthracotic pigmentation present and on section there is a greenish-brown frothy exudate. Bronchi contained a yellowish-brown frothy exudate. Pulmonary vessels show no evidence of fibrosis or occlusion. Right lung collapsed. Right diaphragm is elevated. There is a tumor mass in the right upper lobe. Lung weighs 900 grams. This tumor mass measures \(4\frac{1}{2}\) x \(3\frac{1}{2}\) x \(2\frac{1}{2}\)". This is the same tumor mass that erodes into the pericardial sac. Right upper bronchus is occluded by the tumor approximately 1 cm. from its bifurcation. The tumor mass is opened, presents a yellowish-red mottled appearance. The tumor mass also erodes into the superior vena cava. The lung tissue of the lower lobe is firm, reddish-brown in color, and on section there is a greenish-brown frothy exudate.

ANATOMIC DIAGNOSES: Bronchiogenic carcinoma of right lung with erosion into pericardial sac and the superior vena cava; Hemopericardium; Hemothorax; Pulmonary congestion; Fatty change in liver; Coronary arteriosclerosis, moderate.

CAUSE OF DEATH: BRONCHIJOGENIC CARCINOMA OF THE RIGHT LUNG WITH EXTENSION INTO THE PERICARDIUM; CARDIAC TAMPOONADE

Case #6 (Mrs. John Bielfield)
A. P. Stout Club Seminar of 1953

This 85 year old white female developed a metastatic lesion on the anterior chest wall which was removed in April of '53. As of August 1st, this patient is doing well, eats and sleeps alright. The metastatic lump of the chest wall has not returned. X-rays of the chest so far show no evidence of metastatic disease.
CASE 5.  

**P&S 35069 and L0147**  
Contributed by:  
Col. Charles Farinacci  
Fitzsimons General Hospital  
Denver, Colorado

**HISTORY:**  
A 28-year old male had bilateral pneumonitis in 1940 which was treated by five months of bed rest and pneumothorax therapy. X-rays of the chest reported in 1941, 1946 and 1948: negative. Early in 1950 patient developed right upper chest pain which was made worse by coughing. X-ray of chest was reported as negative. The right chest pain and cough recurred in October and was accompanied by nasal congestion. At this time a chest x-ray showed a cyst which contained fluid in the right lung field. Three sputums were reported negative for acid-fast bacillus. Fluoroscopic examination revealed the cyst to measure approximately 7 x 5 cm. There was a fluid level and solid mass near the lateral wall. The lesion was excised.

Approximately one year later the tumor recurred and at operation it was found in the posterior gutter without any apparent involvement of the lung.

**NOTE:**  
P&S 35069 are from the first operation (A)  
P&S L0147 from second operation (B)

CASE 6.  

**P&S L01415**  
Contributed by Dr. A.O. Severance  
Baptist Memorial Hospital  
San Antonio, Texas

**HISTORY:**  
An 85 year old white female complained of severe pain in right lower leg for two months. Apparently she had noticed a mass in the leg for one year, which had gradually increased in size. On physical examination the right lower leg measured 1½ inches more in circumference than the left. The right leg was hard in the mid and lower calf areas. X-ray showed an extensive destructive process involving the mid shaft of the fibula with almost total destruction of the bone in this portion. The area of destruction involved approximately 15 cm. of the shaft. There was some reactive new bone formation at the margin of the destructive process. Small spiculations of bone extended out into the surrounding soft tissue mass. There was also an irregular cyst-like structure in the adjacent portion of the tibia. Chest x-ray was negative. An amputation was performed. A huge tumor occupied the entire fibula for an area 12 x 5 x 5 cm., and it had a glistening greyish-yellow appearance. It extended into the surrounding soft tissues and invaded the nearby tibia.
Case 7. P. & S. #39374. Adenoma lymphomatosum (with sebaceous glands) of parotid salivary gland. The patient was last seen June 14, 1954, at which time there was no evidence of recurrence.

Case 8. P. & S. #40437. Androblastoma of testis. Patient still alive at this writing (July 2, 1954), and primary tumor in prostate not yet proven pathologically. Published as a case of metastatic carcinoma of the testis.

Case 10. P. & S. #40689. Carcinoma (apocrine type) of female mammary gland. The patient was operated upon June 17, 1953 when a radical mastectomy was done. A tumor was found in the breast, and 2 out of 16 axillary lymph nodes were involved by metastatic growth. The neoplasm was typical for colloid carcinoma. No evidence of tumor at this writing.
CASE 7

HISTORY:
A 41 year old white female had a slow growing tumor at the angle of the mandible for 3 years. At operation, the tumor was an oval, firm, slightly lobulated well circumscribed mass 4 x 4 x 2 cm. The external surface was slightly bosselated and covered by a thin smooth capsule. The cut surface was homogeneous, creamy pink, and resembled lymphoid tissue.

CASE 8

HISTORY:
A 70 year old male developed urinary retention and had a suprapubic cystotomy performed. Through the cystotomy wound the surgeon felt a large cystic prostate. The contents of the cyst were aspirated and a cell block made. A diagnosis of atypical glandular elements was made on the cell block. Following this diagnosis an orchidectomy was performed. In one of the testes there was an indurated area about 1 cm. in diam. that was somewhat tan and hemorrhagic. It resembled a small infarct. Sections are from this lesion.

CASE 9

HISTORY:
A 75 year old man had a typical benign prostatic hypertrophy for which a suprapubic prostatectomy was performed. On the anterior aspect of the prostatic capsule there was a soft pinkish brown, flattened mass measuring 4 x 2 x 0.5 cm. The section is from this mass.

CASE 10

HISTORY:
A 73 year old white female developed a small lump in the upper outer quadrant of the breast, actually more in the axillary prolongation of the breast. She had noted the tumor for six weeks. On Physical Examination the lesion was thought to be superficial, apparently occupying the subcutaneous fat, and possibly not even in the breast at all. The surgeon noted that the skin puckered over the lesion when the patient raised her arm. The lesion was excised.
CASE 11

P&S 11162

Contributed by Dr. L. Ackerman
Barnes Hospital, St. Louis, Mo.

HISTORY:
Male, age 40. There was a movable lump in breast present for at least 12 years. It had not increased in size. It was locally excised with a clinical diagnosis of fibroadenoma. The sections are from this local excision.

CASE 12

P&S 40663

Contributed by Dr. Richard E. Johnson
Ellis Fischel State Cancer Hospital
Columbia, Missouri

HISTORY:
A 7-year old white boy had a tumor that distorted the upper eyelid for approximately one month. It grew rapidly over a period of three weeks. The lesion was excised, but a recurrent tumor appeared and grew rapidly to the size of 2 cm. within two weeks. X-ray therapy was given. Eight months later, proptosis was noted. This deformity rapidly progressed and one month later an exenteration of the contents of the orbit was performed. In the gross specimen the soft tissues were replaced by soft white friable tumor. The lacrimal gland was secondarily invaded and partially replaced. The bulb was not involved, nor was the optic nerve. The slides are from this specimen.

FOLLOW-UP: A local recurrence was noted three months later, and the patient died five months following the last operation. Cause of death was thought to be infection and blood loss, since there was no clinical or radiographic evidence of metastases.

CASE 13

P&S 40655

Contributed by Dr. Raffaele Lattes
Columbia-Presbyterian Medical Center, N.Y.

HISTORY:
Patient is a 29 year old female. An upper mediastinal mass was found during routine chest survey and interpreted as a possible retrosternal goiter. There were no symptoms except for occasional cough. Exploratory thoracotomy showed a large tumor mass situated just below the aortic arch. The tumor was extremely vascular and could not be completely removed.

This operation was performed in January 1953, and the last information available (April 1953) is that the young woman has done very well postop., and is free from symptoms.
DISCUSSION:

This tumor is remarkable in several ways. Since chyle escaped from the cut surface and there are many anastomosing endothelial lined spaces throughout the tumor, I think we must believe they are lymphatic spaces. The very few red cells that appear in their lumens are not sufficient to believe we are looking at blood vessels. I think the scattered focal lymphoid collections also favor the belief they are lymphatics since such lymphoid collections often are found in lymphangiomas. Then what are the rounded and occasionally slightly elongated cells packed in around them? I do not believe they are non-chromaffin paraganglionic cells because tumors of these cells are never served by lymphatics but always by blood vessels. They are not granular so that I would also exclude from consideration organoid granular cell myoblastoma. For the same reason I would exclude ectopic granulosa cell tumor which can apparently develop in the mesentery of the colon. This leaves me only pericytes and smooth muscle cells. I can find no elastic fibers among them with the Verhoeff stain and the Laidlaw stain shows only sparsely scattered reticulin fibers as soon as one gets out among the tumor cells and away from the vascular sheaths. I think that some of the cells may have longitudinal myofibrils so that I believe some of them must be leiomyoblasts. Others may be pericytes. Since I believe there is some kind of relationship between pericytes and leiomyocytes, this does not disturb me.

I think this is the first tumor which was surely a lymphangioma that has had pericytes and smooth muscle cells as the dominant features. I have seen well differentiated smooth muscle cells scattered at intervals in the walls of lymphangiomas, but never anything like this.

This tumor disturbs me very greatly because it is necessary to give it a name and I hesitate to coin a new one for it to add to the already overcrowded roster of soft tissue tumors. If the vessels were blood vessels it might be called either venous hemangioma or hemangiopericytoma but these would be misnomers. It cannot be called a venous lymphangioma because that is a confusion of names. I regret now that I called the tumors with pericytes hemangiopericytoma because that excludes the lymphatic tumors. I chose that name because I knew the capillaries had pericytes but did not know whether or not the lymphatics did so. I suppose the only choice here is to call this tumor either a vascular leiomyoma or a lymphangiopericytoma. The latter term is in every way more desirable and descriptive except for the fact it is a new term. I shall call it that tentatively first because I think the greater number of cells are probably pericytes and second because I don't know whether it is benign or malignant, and the latter term permits me to retain this uncertainty.

DIAGNOSIS: Lymphangiopericytoma of retroperitoneum.

It is too bad this tumor did not come along in time to permit Lauren Ackerman to include it in his fascicle.

Arthur Purdy Stout, M. D.
DISCUSSION:

The sections available to me show a cyst lining composed in part of pigmented epidermis with the melanin largely confined to the cells in and near the basal layer and in part of a thin layer of transitional type epithelium. Whether or not any of these cells has secreted mucin, I cannot be sure but I can find no cilia. Beneath the lining are many sebaceous glands, some hair follicles and, surrounded by sebaceous glands, one small plaque of hyaline cartilage. Most of the rest of the section is filled with a tumor. This consists of masses and short strands of rounded cells with scanty cytoplasm containing acidophile granules. The peripheries of these cell groups have generally shrunk away from the surrounding fibrous stroma leaving an artefactual empty space. The periphery of the cell groups is also thickened sometimes by the presence of slender pencil-like cells intercalated between the rounded cells and running at right angles to the stroma. With the Fontana stain the peripheral rounded cells are sometimes darkened but never blackened. In a number of places there are rosette or gland-like formations with central lumens. These usually contain a detritus which is unaffected by mucicarmine. The detritus looks to me like cellular debris.

It is obvious that this is some kind of tumor which has grown in the wall of a teratomatous dermoid cyst. It might be an islet cell tumor, a bronchial adenoma or a carcinoid. The tumor more nearly resembles a carcinoid than the other two and there are at least four cases called carcinoid tumors reported in the literature, two of them by M. J. Stewart, Willis and de Saram, one by Gabrilove, and one by Blackwell and Dockerty. In two cases reported by the British authors the tumor cells were found in smooth muscle and in one of them the smooth muscle was covered on one surface with intestinal epithelium. In the case reported by Blackwell and Dockerty there was one surface with intestinal epithelium and peribronchial glands. These authors said the peripheral layer of cylindrical cells surrounding the tumor cell masses were darkened by silver but they did not say what silver preparation was used. Gabrilove found portions of what he believed to be gastric mucosa and islets of tumor cells scattered among the mucosal glands.

I presume the present case is a carcinoid but I am not entirely satisfied that it may not be a bronchial adenoma. I am aware of the resemblance between the two and I do not think there is clear proof that this is a carcinoid.

In passing, it is of interest to note that Michalany working in Masson's laboratory found argentaffine cells among the mucoid secreting cells in 4 out of 6 pseudomucinous ovarian cysts studied with Masson's Fontana technique and in two of three pseudocarcinomas. He also found Paneth cells in one of the cysts. He suggests that there is more than a casual resemblance between the ovarian cystic tumors and the intestine. The more nearly the epithelium in the cysts resembles intestinal epithelium, the greater the number of argentaffine cells.

DIAGNOSIS: Carcinoid tumor of dermoid cyst of ovary.

Arthur Purdy Stout, M.D.

(See next page for list of references)
BIBLIOGRAPHY


DISCUSSION:

When one has an opportunity to study multiple sections from various parts of this tumor it does not present any great difficulty in diagnosis. It is found that most of the cells are elongated spindles usually with blunt ended nuclei and with mildly acidophile cytoplasm which in places is fibrillated with what I would interpret as myofibrils. There are a considerable number of giant cells in some places. Many of these have anaplastic nuclei and some are multinucleate. Perhaps the majority are obviously malignant tumor cells. There are places, however, where the giant cells are not obviously malignant tumor cells at all; indeed, they look like the giant cells of a benign giant cell tumor of bone marrow or tendon sheath. And near the surface of that part of the tumor which projected into the uterine cavity even the stroma does not always appear like a malignant tumor. One reason for presenting this tumor lies in the fact that curettage before operation scraping off this surface, yielded curetttings which were hard to interpret as a malignant tumor.

There are a number of different varieties of malignant uterine tumors which have a marked tendency to grow into the lumen where they may form a large mass which bleeds easily, undergoes superficial necrosis and may also produce a nasty foul smelling discharge. Such tumors include leiomyosarcomas, malignant mesenchymomas, carcinosarcomas, carcinomas with sarcomatoid metaplasia, collision tumors, malignant teratomas and choriocarcinomas. Biopsies or curettlings from these tumors can be exceedingly hard to interpret because they may show only one portion of a tumor of mixed nature. It has been my experience that all of the tumors mentioned are very malignant, they give rise to metastases usually through the blood stream and sometimes through the lymphatics and that all of them need radical surgical treatment. When I saw the curettlings from this case, although I did not know what kind of a tumor it would prove to be, there was no hesitancy in my mind about the indication for radical surgical treatment.

DIAGNOSIS: Leiomyosarcoma of uterus.

Arthur Purdy Stout, M. D.

Seminar 1953, Case #3 - Leiomyosarcoma of uterus

Patient at present in James Ewing Hospital with x-ray evidence of multiple pulmonary metastases. However, surgeon who removed the uterus has just been notified by someone in pathology laboratory at James Ewing that the original material (curettlings containing giant cells) is from a benign giant-cell tumor. The original pathologist has, of course, not been informed directly of this change in diagnosis (Cf Par.3 of Code of Ethics of College of Am. Path.)
DISCUSSION:

This remarkable tumor seems to me to have the earmarks of the adenosarcoma or Wilms tumor. The intermingling of glandular structures and completely undifferentiated rounded tumor cells is so much like the Wilms tumor and so unlike any primary bladder tumor which I have seen or read about that it is hard to believe it can be anything else. It is well to remember, however, that Masson in studying three adenosarcomas of the kidney came to the conclusion after silver nerve fiber impregnations that most of the cells composing them were neuroblasts and the gland-like spaces were lined also by neuroblasts rather than kidney blastema. He developed an elaborate theory to explain how such cells migrated from the neural crest into the kidney. There is therefore the possibility that this tumor is a neuroepithelioma. It is equally hard to explain its presence as that rather than a Wilms tumor.

I could find no statement in Henke-Lubarsch which led me to believe there could be embryonally misplaced kidney tissue in the bladder or prostatic urethra. A ureter may insert as low down as the urethra, so that it is conceivable that kidney blastema might be found there even in the presence of a horseshoe kidney. I have not been able to find any references to the occurrence of either Wilms tumor or neuroepithelioma primary in the bladder. There are a number of papers dealing with urachal mucous-secreting bladder carcinomas and a rather fanciful paper entitled: "Adenomatoid Tumours of the Bladder Reproducing Renal Structures (Nephrogenic Adenomas)" by Nathan Friedman and Kuhlenbeck describing eight cases of small glandular pedunculated or sessile tumors in the bladder mucosa. The authors find these growths resemble kidney tubules and so have dubbed them nephrogenic adenomas. These may be such; the authors advance some complicated hypotheses to explain them but as yet they await confirmation.

It would be of interest to find neurites in this tumor. In any event, it should certainly be reported.

DIAGNOSIS: ADENOSARCOMA (Wilms's Tumor) of Urinary Bladder

Arthur Purdy Stout, M.D.


DISCUSSION:

This case has been a source of continuing speculation to me ever since Charlie Farinacci sent it to me. The primary tumor is partly cystic and well over to one side of the chest where it is adherent to the pleura and indents the lung apparently by pressure. It was very hard for me to appreciate its exact relationships but it seemed to be not in the usual place where a thymus tumor might be expected. At the time when the tumor first came I did not know that a thymoma could so far indent the lung as to seem to be a primary lung tumor. Therefore when I studied the sections and found that it was a very vascular growth, far more vascular than can be appreciated with hematoxylin and eosin, with short plump spindle cells surrounding the vessels I thought the chances were in favor of its being a hemangiopericytoma rather than a thymoma or fibrous mesothelioma. There were far too few connective tissue fibers for the fibrous mesothelioma and the growth appeared monocellular and without any admixture of lymphoid type cells which is most unusual for a thymoma. The recurrent tumor while it reproduces almost exactly the appearance of the primary growth has raised the question of thymoma all over again since now I know that a thymoma can develop well over toward the lung and can indent it. I suppose one might also suggest the possibility of non-chromaffin paraganglioma because of the almost organoid appearance of the tumor. But this is far away from the sites of the aortic bodies and I can hardly believe these are paraganglionic cells, so that I have rejected that as a possibility.

It has been my general attitude in regard to hemangiopericytoma to reject it as a diagnosis if I can think of any other reasonable explanation for a tumor. In this case, the tumor cells seem to me enough like the larger reticulum-like cells of thymoma to be acceptable as such even in the absence of the lymphoid type cells which so frequently accompany them. I shall therefore in this case agree with the opinion of the AFIP that this case is probably a thymoma.

It is an interesting speculation as to whether or not it should be considered malignant. The fact of recurrence does not necessarily mean it is malignant; it may have been incompletely excised at the first operation and part of it may have been left behind.

DIAGNOSIS: Thymoma (?) recurrent. vs. hemangiopericytoma

NOTE: Since writing the foregoing the article by Pope and Osgood has come to my attention. It is evident they have encountered these vascular tumors in the thymus. They strive to explain them by a compromise between hemangiopericytoma and thymoma and come up with the confusing and unlovely term "reticular perithelioma". I reject this with violence; it is a return to the dark ages.

DISCUSSION:

This is a tumor which is easy to recognize as to its cellular make-up. It is composed of elongated cells with long slender blunt-ended nuclei and acidophile cytoplasm containing myofibrils. The cells are easily seen for they are often separated by edema. The reticulin in general parallels the cells as it does in normal smooth muscle. There are some bizarre nuclei and mitoses average one in every two high power fields. The spicules of bone in the section I presume belong to the fibula and are simply remnants rather than neoplastic bone.

The tumor therefore is certainly a differentiated leiomyosarcoma. Our experience with such tumors outside of the uterus and gastrointestinal tract has shown a high incidence of blood-borne metastases.

The great interest to me in this case concerns its origin, whether in the soft tissue or bone. In whichever of the two it arose the only normal smooth muscle from which it could arise is vascular smooth muscle. When benign leiomyomatous tumors arise from vascular smooth muscle they are usually very vascular. This one is not. However, I do not know whether or not this observation can be applied to malignant smooth muscle tumors. There is reason to believe that it does not apply, for most of the soft part leiomyosarcomas are not especially vascular. The marrow of the long bones has some arteries and veins in it, therefore it is theoretically possible for a smooth muscle tumor to develop there. The roentgenologic picture shows such an extensive and widespread involvement of the fibula that it suggested to the radiologist a primary tumor of bone. What has to be decided is whether a tumor arising in the soft tissues of the leg could invade and destroy the bone to the degree exhibited in this case. I know of no instance in which this occurred and so I believe this tumor probably arose in the fibula. If this is correct this is the first case of leiomyosarcoma primary in bone.

DIAGNOSIS: Leiomyosarcoma of (fibula?)

Arthur Purdy Stout, M. D.
DISCUSSION:

This tumor was removed from the parotid salivary gland. It is apparently encapsulated and the attached parotid tissue is normal. Dr. Kay states that there were two tiny nodules of lymphoid aggregates or lymph nodes in the gland but nothing resembling the tumor. The tumor is composed of numerous tubules or ductules lined with several layers of epithelial cells which show occasional epidermoid differentiation without keratin formation, but more often are mingled with groups of sebaceous gland cells. There are no oncocyes detected. Lymphoid cells fill in all of the space between these ducts. There is no lymph follicle formation but there are occasional reticulum cells mingling with the predominant small lymphocyte. The mucicarmine stain shows no evidence of mucin.

The problems concerned with this tumor are: Is it benign or malignant, what is its nature, and what should it be called? You will recall that Rawson and Horn described sebaceous glands in the parotid gland as Hartz and Lee had done before them. They reported two tumors. Case 2, the first of their tumors, was very much like this one and they considered it benign. They suggested that the tumor was related to papillary cystadenoma lymphomatosum. Case 3 of their group was more like a mucoepidermoid tumor with sebaceous glands and they considered it as probably malignant.

In the as yet unpublished fascicle on Tumors of the Major Salivary Glands of the Atlas of Tumor Pathology by Foote and Frazell, the authors agree that sebaceous glands can be found in the ducts of salivary glands, in papillary cystadenoma lymphomatosum and in tumors like this one which they would call a benign lymphoepithelial lesion (adenolymphoma, lymphophtithelioma, adenoma lymphomatosum and even Mikulicz's disease). They seem to have included in this name not only definite tumors like this one but also diffuse and multicentric lymphoid infiltrations of parotid tissue. They say they have never seen a malignant case and are apparently unwilling to accept lymphosarcoma of the parotid. It seems to me hardly proper to include the two lesions together and to deny there is such a thing as lymphosarcoma of the parotid.

I was deceived by this case when I first wrote to Dr. Kay about it. I suggested it was a mucoepidermoid carcinoma with sebaceous gland metaplasia. I must retract that for the very good reason that mucoepidermoid carcinoma is an infiltrating tumor and this one is encapsulated. I think it must be closely related to cystadenoma lymphomatosum but perhaps it should be separate. Perhaps adenolymphoma is a good name but I would prefer adenoma lymphomatosum.

DIAGNOSIS: Adenoma lymphomatosum (with sebaceous glands) of parotid salivary gland.

Arthur Purdy Stout, M. D.

Ref:
DISCUSSION:

This unusual tumor nodule in the testis is hard to describe because it is so vague. It seems to consist of a considerable number of dilated tubules like the rete testis and of smaller tubes lined by low columnar very heavily stained cells which extend outward among the atrophic tubules and not infrequently replace the lining epithelium of tubules. Some of these cells form papillary projections into the lumen with delicate supporting fibrous stalks. The stroma of the nodule is fibrous with a great amount of blood pigment.

How to classify this growth? It more nearly approaches the appearance of tumors of Sertoli cells and the excretory ducts of the rete described by Willis than anything I can think of. He believes Sertoli cells and cells of the rete are so closely allied as to be indistinguishable. Closely related are what Willis calls tubular adenomas in which the non-spermatic component of the tubule, the Sertoli cell, is the important element. But he seems unwilling to draw any sharp distinction between the two. In this tumor of Saul Kay’s both elements seem to be present.

Turning to other authors we find that Teilum has described three testicular tumors which he calls androblastomas. In addition to these there are four others referred to by Dixon and Moore in the fascicle on Tumors of the Male Sex Organs. There are apparently three types of these tumors: tubular (also called tubular adenomas); mixed and diffuse stromal representing three different stages of the primitive gonadal blastoma - the mixed form representing an intermediate stage between differentiated and undifferentiated. Teilum likens them to the arrhenoblastoma of the ovary which is masculinizing. However, the Androblastomas of the testis when hormonally active are feminizing and produce gynecomastia. Teilum says this is because the tubular epithelial elements in these tumors are related to Sertoli cells and are potentially capable of estrogen formation while the stromal tissue is related to interstitial cells and is therefore potentially androgenic. Lewis and Stockard believe that they are Sertoli cell tumors but likens the Sertoli cell to the granulosa cell of the ovary, thus accounting for the estrogen secretion. All of the tumors have been called benign although Willis describes two carcinomas of the rete testis.

I have only seen one other tumor which I thought might be an androblastoma of the undifferentiated type. It was sent to me by Dr. A. J. Miller, pathologist of the Corwin Hospital of Pueblo, Colorado. It was congenital and the testis was removed at 2 days. The tumor measured 3 x 2.5 x 2.5 cm., was apparently encapsulated and yellow in color. The cells are of various sizes and shapes, a good many seem vacuolated and there are no recognizable tubular or differentiated epithelial elements anywhere. It may be an undifferentiated teratoma but I thought there was also the possibility it might be a stromal androblastoma.

(continued on next page)
One other problem remains which I cannot surely solve. Whence came the glandular elements which were aspirated from the bladder and were found in the cell block? They do not seem to me to bear any definite relationship with the testis; they do not resemble trigone or urethral glands, nor do they look to me much like prostate. The growth seems papillary and the cells do not look like cancer cells. I am unable to account for these cells.

**DIAGNOSIS:** Androblastoma of testis. vs. metastatic carcinoma from prostate.

Arthur Purdy Stout, M. D.

**Ref:**


Since discharge 12/9/52 following a suprapubic prostatectomy, the patient was seen in the Urology Out-Patient Department and in the Eye Clinic for cataracts. He last came to the Urology Clinic on 7/7/53 and to the Eye Clinic on 1/27/54. A letter received from his local physician 12/31/54 stated that the patient had no urological symptoms. This is the last note in his chart.
DISCUSSION:

This rather sizable flattened tumor found on the anterior aspect of the prostatic capsule has a cellular composition unlike any tumor I have ever seen in or near the prostate. It is made up of rather vague cords and masses of cells closely packed and separated by fibrovascular septa. These cells are polygonal and of two varieties. One type is distinguished by a strongly acidophile granular cytoplasm, the other similar but without acidophile granules. The different cells sometimes form rosettes or gland-like spaces.

I know of no other way of explaining this growth in this situation than to suppose it is an arrhenoblastoma in a male occurring in a situation where one would not expect to find it. It differs from the usual interstitial cell tumor such as the nine cases in the Columbia University Surgical Pathology Laboratory because these were all made up of pure interstitial cells whereas this tumor seems to be composed of both interstitial cells and undifferentiated male gonadal blastema and in this respect almost exactly imitating the appearance of some of the ovarian arrhenoblastomas. We have five cases of this tumor in the Laboratory and two of them had interstitial cells.

I have not combed the literature thoroughly but I know of no other case of this kind on record. I showed this case to Dr. Mostofi of the A.F.I.P. He agreed with my interpretation of it and told me he did not know of any similar cases. He has found heterotopic interstitial cells along the spermatic cord in its sheath and was kind enough to give me a slide showing an example of this phenomenon. This shows that the interstitial cells may be found in the male outside of the testis. I suppose it is possible to assume therefore that in embryonal life during the descent of the testis cells may be dropped off, which in this case led to the growth of this arrhenoblastoma in the capsule of the prostate and in Mostofi's male to the presence of ectopic interstitial cells along the cord.

So far as our knowledge of this case goes this patient has not shown any evidence of hormonal production. Had 17-Ketosteroids been looked for, they might have been present, for Masson and others have proved that interstitial cell tumors can secrete enormous quantities of them without any effect at all on the secondary sexual characteristics of the male. If the patient had shown gynecomastia one would have to suppose that there were Sertoli cells present and functioning.

Because of its resemblance to the arrhenoblastoma of the ovary, I think that name should be used for this tumor.

DIAGNOSIS: Arrhenoblastoma of prostate.

Ref.

DISCUSSION:

This interesting tumor poses several questions - is it benign or malignant, is it a growth derived from mammary gland, from sweat glands, or is it a metastatic tumor, and finally what should it be called. It is important to know whether it comes from breast or sweat glands because if it is a carcinoma that fact will have a bearing on the treatment and prognosis. The evidence is not convincing but it favors breast. There is the statement that it was subcutaneous; there is also the fact that no sweat glands are present adjacent to the tumor and further in my section a tiny separate fragment of tissue contains a mammary duct and the edge of the tumor. There is therefore mammary tissue immediately adjacent. I believe therefore that this is a mammary gland tumor. If this is true then certainly this is a carcinoma, for although most of the larger rounded masses of tumor cells are very sharply circumscribed, there is definite evidence of invasion of the surrounding fat by unrestrained tumor cells.

But there are certain interesting features to the cellular morphology. Most of these cells have a generous amount of cytoplasm which is peppered with acidophilic granules. While most of the cells are polygonal, some of the cell masses are outlined by cylindrical cells with the nucleus oriented away from the periphery. Masses of a mucin-like material bathe sometimes the outside of the cell masses and sometimes it is found toward the center. Evidently this has been secreted by the columnar cells. These areas make the tumor look like a colloid carcinoma.

Since sweat glands have been ruled out as a source for these cells they must come from breast duct epithelium for there are both acidophilic granule containing cells which must be reproducing in caricature apocrine duct cells and the cylindrical vacuolated cells must also be duct cells since they secrete mucin. I do not recall having seen a breast carcinoma that produced caricatures of the so-called apocrine cells. I did not think that tumor cells could be malignant and still retain the acidophilic granules of the adult apocrine cell. Since the tumor cells retain some of the characteristics and features of the non-cancerous duct cells, I will hazard a guess that this is a carcinoma which grows slowly and metastasizes late. A radical mastectomy would be my recommendation for treatment.

DIAGNOSIS: Carcinoma (apocrine type) of female mammary gland.

Arthur Purdy Stout, M. D.
DISCUSSION:

This tumor seems at first glance to be a simple case not requiring much attention. However, you may be sure that Lauren would not have submitted it for our attention if it did not have rare and precious features, for our Lauren is a connoisseur not only of fine foods and vintage wines, but also of the esoteric in tumors.

Obviously this is a carcinoma of the male mammary gland which is of only median differentiation insofar as gland formation is concerned but which is remarkable because of the statement that it had been present certainly since the age of 28 and possibly appeared at the age of 25 years. This is not unique but it is certainly uncommon for the average age of 101 carcinomas of the male breast according to Wainwright is 54.2 years. Wainwright tabulated several cases which had been reported in boys aged 12, 13, and 14 years 8 months respectively. Since these three boys were well respectively 5, 9, and 13 years after excision he felt these were questionable cases. The youngest case which Wainwright accepted started at the age of 19. During the next 3 years there were two unsuccessful attempts to excise it and when seen by Dr. W. R. Coley at the age of 22 the case was inoperable. The youngest case studied by Wainwright was 23 when the tumor was first noticed. He had axillary metastases. We can, of course, only speculate as to whether or not this man had had his carcinoma for from 12 to 15 years. It will be interesting to learn from Lauren about the axillary nodes and the subsequent course of this patient. I have long wondered about the carcinomas in the breasts of children both male and female which have the appearance of carcinoma but do not metastasize or otherwise behave like them.

The other feature in this breast which is of great interest to me is the intraductal papillary growth with which the infiltrating carcinoma is in continuity. Is this an example of a malignant growth developing from a benign one? I have to say that in spite of the thick stalks which are covered by epithelial tumor cells in the papillary part of this tumor, I believe the papillary growth is itself carcinomatous. The lining cells seem to me anaplastic and they show the peculiar bubbly or foamy appearance of the luminal pole which I have come to recognize as a sign of malignancy in papillary breast tumors. Therefore for me this is simply a papillary breast carcinoma with penetration and infiltration and I cannot recognize it as evidence of a pre-existing benign papilloma becoming malignant.

DIAGNOSIS:

Carcinoma of the male mammary gland (papillary type in young man)

Arthur Purdy Stout, M. D.

Ref:

DISCUSSION:

This case is an example of a rhabdomyosarcoma of the lid and orbit. The diagnosis is easily made if one happens to look at the areas of rounded cells of two types; one a smaller rounded undifferentiated variant and the other larger with markedly acidophilic cytoplasm. Even though one cannot find cross striations, this picture is sufficient to warrant the diagnosis of infantile rhabdomyosarcoma. But in many areas the tumor is composed of spindle shaped cells growing in intertwining bundles which resemble fibrosarcoma or sometimes leiomyosarcoma. A careful search will reveal an occasionally rounded cell with acidophilic cytoplasm which suggests the real nature of the tumor. I believe that this is a pure rhabdomyosarcoma and the fibrosarcoma-like areas are metaplastic, demonstrating the ability of the rhabdomyoblast to take on fibroblastic appearance and functions. This is a fairly common event in a good many mesenchymal tumors.

Rhabdomyosarcoma of the lid and orbit is a rare tumor and there have been few reported. When Calhoun and Reese described five cases in 1942, they could find records of only 14 others in the literature, all but one of which were in children. Only one case had been autopsied - in addition to extensive local involvement it had metastasized to the lung. All of Calhoun and Reese’s patients were children. Two of Calhoun and Reese’s patients survived over ten years after exenteration, and the other three died. The tumor is twice as common in males as in females. There have been five cases recorded in the Laboratory of Surgical Pathology of Columbia University. Two were females aged 13 and 25 years, and three were males aged 4, 16, and 16 years. One of the 4-year old males died two years after exenteration. At autopsy, in addition to local recurrence there were metastases in the lungs, pancreas, kidneys, axillary, cervical, inguinal, retroperitoneal and mediastinal lymph nodes and bones including the vertebrae. The outcome of the other cases is not recorded. Originally I had the impression that the infantile orbital rhabdomyosarcoma was comparable to the sarcoma botryoids of the urogenital tract in children and would not metastasize. It is evident, however, that this is not the case and that the tumor is capable of metastasizing. It is quite capable of fungating out through the skin or conjunctiva but it is not especially grape-like. Reese states that he has seen one such case. Reese in his book advises complete exenteration of the orbit as soon as the diagnosis is made. From the history of reported cases this would seem to be justified since two of the cases have apparently been cured by that procedure. Where it was delayed following biopsy or local excision it seemed to recur and become incurable.

DIAGNOSIS: Rhabdomyosarcoma of orbit.

Arthur Purdy Stout, M.D.

Ref:

DISCUSSION:

This seminar seems to specialize in growths involving or related to glands of internal secretion. The present case is no exception. One can easily recognize the organoid pattern of the endocrine tumor with the plexiform arrangement of blood vessels surrounding balls of tumor cells with strongly fuchsinophile granular cytoplasms. While most of these cells have pyknotic nuclei there are enough well preserved ones to enable one to recognize the strong resemblance to paraganglionic cells with their granular cytoplasms. The resemblance to tumors of other paraganglia of the non-chromaffin variety is convincing. In one area where some of the cells are large with large bizarre pyknotic nuclei the resemblance to pheochromocytomas of the adrenal is marked.

Interest in the non-chromaffin paragangliomas of the head end of the body is now quite widespread and both information and misinformation are accumulating. Thanks to Rafe Lattes, our experience is reasonably extensive. We have recorded 14 cases in the carotid body, 5 more in the lateral neck, the exact location of which is uncertain, 4 in the ganglion nodosum of the vagus nerve, 5 in the aortic bodies including this case, one in the orbit, one probable one in the nasal cavity, and 21 glomus jugulare tumors. The one in the orbit may not be primary since this patient had a huge paraganglioma in the carotid body. This is a total of 51 tumors but fewer patients because several patients had tumors in more than one area.

We are still waiting to see an authentic primary case develop from the ciliary ganglion in the orbit. The case which Fisher and Hazard reported as a non-chromaffin paraganglioma of the orbit is not a paraganglioma, as Rafe and I have had an opportunity to see the slides. The more recent information about the whole group includes an interesting paper by Winship and Louzan. This relays two interesting pieces of information. Because it seemed difficult to believe that all of the glomus jugulare paragangliomas came from structures in the nerve of Jacobson, the authors asked Guild for further light. He is reported as saying that glomus structures can be found in the adventitia of the dome of the jugulare bulb, along the course of the nerve of Arnold (auricular branch of the vagus) and along the course of the nerve of Jacobson distal to its promontorial part, in the region where the nerve becomes continuous with the lesser petrosal nerve near the geniculate ganglion of the seventh cranial nerve. Guild feels that there are enough glomera to account for all of the sites in the middle ear in which these tumors are found. The second interesting observation comes from a Dutchman named Bartels who noted a familial tendency in glomus jugulare tumors and emphasized their association with carotid body tumors.

DIAGNOSIS: Non-chromaffin Paraganglioma of Aortic Arch Body.

Arthur Purdy Stout, M.D.

(See next page for Reference List).
Ref:


