Henry Ford Hospital Medical Journal

Volume 6 | Number 4 Article 8

12-1958

Hamartoma

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HAMARTOMA*

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One author[1] suggests that the name "hamartoma", coined by Albrecht, should send us to our dictionaries rather than our case records. Dorland's Medical Dictionary will tell you that an hamartoma is a tumor due to overdevelopment of normally placed tissue elements or due to an abnormal relationship of a normally situated tissue element. It is derived from the Greek words meaning "error" and "tumor".

In the past seven years the literature includes 105 articles on hamartoma, chiefly concerned with the pulmonary field: lung, bronchi, and even a bronchial artery hamartoma. Fifty-eight articles deal with this while only 5 are devoted to hamartoma for the gynecologist: 2 ovarian, 1 uterine, 1 vaginal, and 1 unspecified. Ten articles deal with hamartoma in the digestive tract including one in a Meckel's diverticulum. Seven articles deal with its presence in the central nervous system including 3 producing precocious puberty[2] when the hypothalamus was involved. Nine articles consider hamartoma of the kidney, 4 deal with the liver, 3 the heart, 2 the spleen, 2 the skin and one each for hamartomas of the face, neck, parotid gland, mediastinum and hand.

EMBRYOLOGY

The tumors of interest to the gynecologist are mesonephric in origin. Pronephric tubules fuse to form the mesonephric duct. The pronephric duct becomes mesonephric tubules. The paramesonephric duct arises later and its course lies parallel to the mesonephric duct. The oviducts are derived from the lateral portions of the paramesonephric ducts and the medial portions fuse to form uterus and vagina. The mesonephric ducts regress in the female but remnants or vestiges occasionally may be found.

Novak, Woodruff, and Novak[3] have considered tumors of mesonephric origin in ovary, broad ligament, cervix and vagina while Gardner, Greene, and Peckham[4] in 1948 did a comprehensive evaluation of cystic tumors of the broad ligament pointing out that these could be differentiated histologically more accurately than on the basis of location. These authors also were champions of a reform in terminology avoiding the names of individuals in referring to embryologic structures. Subsequent serious authors have agreed in writing but with skepticism in spirit to use these more appropriate terms.

Schiller[5] in 1939 had described mesonephromas of the oavry and Stowe[6] has published a study of these tumors more recently. Because of the relative rarity, much of the literature deals with single case reports. Wolfe[7] in 1940 examined 1,413 cervices, amputated below the level of the internal os at the time of surgery, and found only one example of persistent remnants of mesonephric tissue.

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*Presented before the Wisconsin Society of Obstetrics and Gynecology, Eau Claire, Wisconsin, October 25, 1958.

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Hamartoma

Huffman[8] in 1948 gave a succinct series of illustrations of the embryology of the mesonephric structures with his study of mesonephric remnants in the cervix. Wolfe[7] quotes from an article written in 1937 by J. Sakuraoka who found mesonephric rests were "especially frequent in the corpus uteri, generally at the level of the round ligament and in the isthmus at the level of the internal os" in Japanese women. In recent literature in English, cases of hamartoma of the body of the uterus have been limited to a single case report wherein the tumor actually arose from an uterine blood vessel. Hughes[9] points out that the fetal cervix is much longer than the corpus of the uterus making it seem more likely that cervix would be the site of these vestiges rather than the uterus.

MALIGNANT POTENTIAL

To expect all of these tumors to be benign is unjustified. Again isolated cases form the basis for much of the literature, but there are many documented cases of malignant tumors such as clear cell carcinoma of the ovary, solid malignant neoplasm in the broad ligament[10], mesonephric carcinoma of the vaginal fornices and mesonephric adenocarcinoma and clear cell carcinoma arising in the cervix — all believed to be of mesonephric origin. These authors have pointed out that glomeruli are no more necessary to make the diagnosis of a malignant tumor's origin from mesonephric structures than it is necessary to identify Leydig cells to diagnose arrhenoblastoma.

The case that drew local attention to this type of tumor was one in which it was purely an incidental finding. Mrs. C. J., a 43 year old married white gravida 3, para 2, abortus 1, had been seen at Henry Ford Hospital since 1952 with symptoms which were diagnosed as psychosomatic although the patient refused to accept this diagnosis. In 1956 a gynecologist found uterine enlargement and a left adnexal tumor. She developed premenstrual spotting which for a year prior to dilatation and curettage on June 7, 1958, lasted 7 days. The pathologists's report on the endometrial tissue was "proliferative endometrium". When symptoms persisted, hysterectomy was advised two months later.

On August 21, 1958, a vaginal hysterectomy, right salpingo-oophorectomy and cystocele repair were done under Nembutal-nitrous oxide-oxygen anesthesia. The pathologist reported hyperplasia of the endometrium, leiomyoma uteri, chronic cervicitis, hamartoma of the cervix, and right paraovarian cyst.

The histopathologic description of the incidental hamartoma follows: "The slide is from endocervix. No squamous epithelium is present, and a few endocervical glands are dilated and filled with mucus. Deep within the cervix, well beyond the deepest penetration of the endocervical glands, there is a fairly well circumscribed, but non-encapsulated collection of epithelial-like structures in the form of variable sized acini and tubules. The epithelium which lines these spaces shows only a moderate range of variability, from low cuboidal to low columnar. The nuclei are generally round to ovoid with moderate staining nuclear material. The cytoplasm is uniform, clear in general, occasionally eosinophilic and infrequently vacuolated. A few of these spaces are filled with an eosinophilic, amorphous material. A thin reticular sheath surrounds these structures which lie within a stroma composed

primarily of fibrous tissue of varying density with occasional strands of smooth muscle noted."

No other cases were included in our index, but a second case has since been reported. A similar description was made, with these exceptions: location was in the portia as squamous epithelium was identified in the same section. A larger number of the spaces contained eosinophilic material. Several areas distant from the adenoma-like collection contained single or grouped minute tubule-like structures with histological similarity to both of the previous lesions described. It is believed that these structures are minute mesonephric remnants.

DISCUSSION

The history and physical examination are of no value in making this diagnosis before surgery. It is entirely an histopathologic diagnosis made by the thorough pathologist who seeks or at least is aware of these mesonephric remnants. Their reported incidence varies from 1 in 1,413 to 40%. A recent study by Sneeden[11] in which the remnants were actually sought produced an incidence of 7.7% to dispute the estimate of 1% made by Huffman and supported by Novak and others.[3] In order to recognize the cancers of varied microscopic appearance that develop from this lesion, the lesion itself must be recognized.

CONCLUSION

It is necessary for us as practicing gynecologists to know something of hamartomas or tumors of mesonephric origin so we can adequately explain them to our patients when an alert pathologist makes the diagnosis: "Hamartoma".

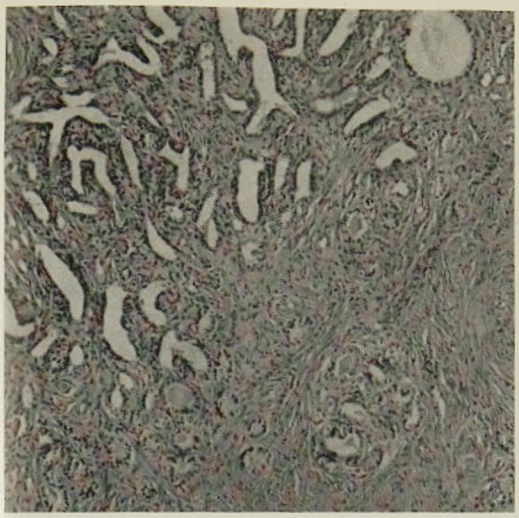

Figure 1

Case No. 1 — Specimen of the Hamartoma X 70.

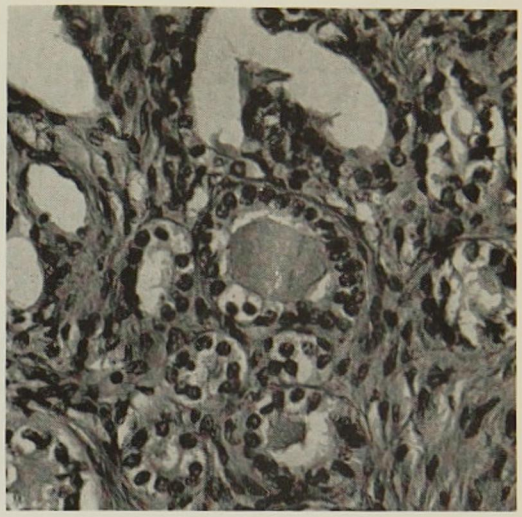

Figure 2

Case No. 1 — Specimen of the Hamartoma X 300.

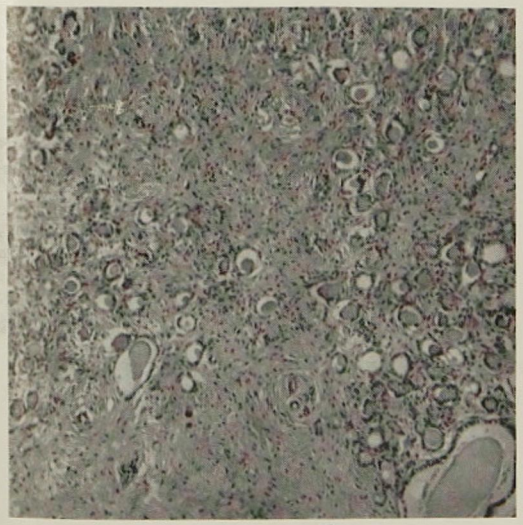

Figure 3

Case No. 2 — Specimen of the Hamartoma X 70.

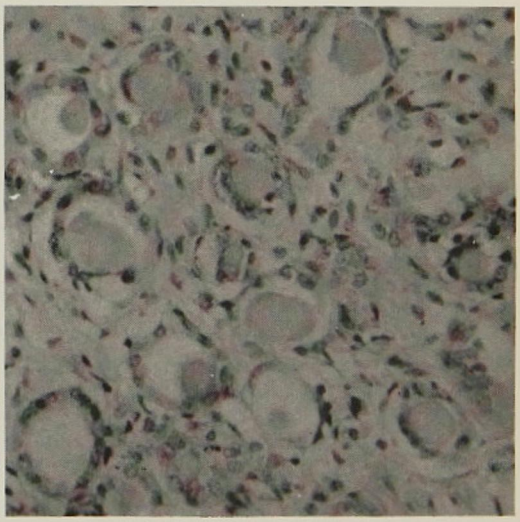

Figure 4

Case No. 2 — Specimen of the Hamartoma X 300.

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