PRIMARY CARCINOMA OF BARTHOLIN GLAND ASSOCIATED WITH PREGNANCY

Review of the Literature and Report of a Case with 12 Year-Survival

by

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Primary carcinoma of the Bartholin gland is one of the rarest gynecologic malignancies. No more than 200 cases have been reported in the literature. The present paper presents a case of primary carcinoma of the Bartholin gland in a 33 year-old housewife in pregancy 7 months. Pathologic examination revealed epidermoid carcinoma of the left Bartholin gland measuring 3.1×4.3×3.2 cm. perforating into the mucosa of the vaginal introitus with one inguinal and one femoral node metastasis among 25 lymph nodes dissected. The operation consisted of hysterotomy (cesarean section), radical extend vulvectomy and groin dissection. One year after the major operation she gave birth to a baby boy and has survived 12 years, living and well.

Primary carcinoma of the Bartholin gland is usually regarded as one of the rarest gynecologic malignancies. According to Crossen[8] and Taussig[31], it comprises 2-3% of vulvar cancers which in turn comprise 3-5% of all female genital malignancies, namely there is approxinateely one case of Carcinoma of the Bartholin gland among every one thousand female genital malignancies: Since the first case reported by Klob[15] in 1864, approximately 200 cases have appeared in the literature, as shown in Table I. However, the tumor is probably much more common than is indicated since many cases are included in the series of vulvar cancers without special regard. For instance, Taussig[13] reported the largest individual series, consisting of 9 casas, ever seen in the literature under the title of cancer of the vulva. A case of primary epidermoid carcinoma of Bartholin gland associated with pregnancy is presented in the present paper, as also is a review of the literature concerning the subject.

REVIEW OF THE THE LITERATURE

Age Incidence

The tumor may occur at any age, ranging from 18 (Jarnecke)[18] or 19 (Beckmann)[2], to 83 (Masterson & Goss)[15] or 91 (Pape)[19], with an average of 49.5[33] or 50[16].

Clinical Symptoms and Signs

No specific symptoms could be assigned to this tumor. The common clinical picture is that of a tender, painful, deep seated labial mass accompanied by dyspareunia, pruritus, abnormal bleeding or having a history of Bartholin gland abscess which was treated by incision and drainage[16]. As in its early stage, the tumor is a well localized lesion with a capsule[5] and the overlying vulvar skin is usually intact, however, as the tumor grows,

Table 1. Incidence of Primary Cancer of Bartholin Gland

Authors	Year	Number of cases
Klob	1864	The first case
Sinn	1880	8
Chaboux	1906	10
Schneider	1930	37
Aquinaga	1944	77
Wharton & Everett	1951	109 (own case: 1)
Masterson & Goss	1954	117 (own case: 1)
Dennis, Hester & Wilson	1955	114 (own case: 1)
Barclay, Collins & Macey	1963	152 (own case: 8)
Payan & Kish	1965	188 (own case: 1)
Sackett	1965	4
Berlingieri	1965	1
Purola	1966	1
Harris	1966	1
Nitta	1935	1
Katsu	1941	3
Horita	1956	1
Hsu & Cheng	1968	1
	1864-1968	201

ulceration or fistula may develop on the vulva, resembling vulvar cancer. The site of the tumor should offer an excellent opportunity for early diagnosis and therapy, but actually, the average interval between symptoms and seeking of medical advice is rather long. The various figures listed in the literature are 15 months[22], 9.5 months[7], 5.8 months[16], 8.8 months[2], etc.

Criteria for Diagnosis

Early in 1897, Honan[11] proposed four criteria, as follows; (1) a typical vulvar site (2) the position, deep in labium (3) the connection of tumor with the gland duct, and (4) the presence of adjacent intact gland tissue. Later, in 1903, Schaeffer[24] added another condition; (5) it should be adenocarcinoma and the overlying skin was intact. However, as discussed elsewhere, the tumor is not necessarily adenocarcinoma. And that genuine carcinoma may be unable to satisfy all these criteria.

Type of Tumor

Since the Bartholin gland is a secretory glandular organ, it is very natural to assume that the tumor will be adenomatous, however, epidermoid variety is not uncommon. The duct of the gland, near its orifice, is composed of many layers of squamous epithelia, while the duct systems are composed of transitional epithelia.[16] Squamous metaplasia may occur in the deeper portions of the gland during the course of chronic inflammation.[5,26,30] This explains the rather high incidence of epidermoid carcinoma, in spite of the fact that the Bartholin gland itself is a secretory glandular organ.

Route of Metastasis

The lymphatic drainage of the Bartholin gland is similar to that of the vulva[5], thus

Table 2. Histological type of Primary Cancer of Bartholn Gland

	Aquinaga (1944)	Wharton & Everett (1955)	Masterson & Goss (1955)	Dennis Hester & Wilson (1955)	Barclay & Collins (1964)
Adenccarcinoma	33(42.8%)	39(35.8%)	19(47.5%)	52(45.7%)	15(42.8%)
Epidermoid cancer	31(40.2%)	51(46.8%)	18(45%)	41(36.0%)	16(45.7%)
Sarcoma	3(3.9%)		2(5%)	4(3.5%)	3(8.5%)
Other Cafcinoma		8(7.3%)		10(8.7%)	
adenoepidermoid				2	
atypical				2	
chancroid				1	
paricellulare				1	
medullary				1	
mucoid				2	
like cystsarcoma				1	
Melanoma	1(1.3%)		0	3(2.6%)	0
Unclassified	9(11.6%)		1(2.5%)	4(3.5%)	1(2.8%)
Unknown	27	104	40	114	35

it appears to go through the inguinal, femoral and iliac chain of nodes[32]. Taussig[31], in his analysis of 155 cases of vulvar cancers, indicated the lymph node involvement as occurring in the order of (1) inguinofemoral nodes, (2) external iliac nodes, (3) obturator nodes, (4) hypogastric nodes and (5) urethral nodes. The metastasis also occurs early and frequently to distant sites, such as the lung and liver. But he did not present a special reference to the detailed lymphatic metastasis encountered among 9 Bartholin gland cancers. Of 22 cases of carcinoma of Bartholin gland collected by Simendinger[28], 11 had enlarged inguinal nodes. Lymphnode enlargement was noted in 3 of 10 adenccarcinomas, and 5 of 7 epidermoid cancers, thus, it would seem it occurred more commonly among cases of the epidermoid variety. On the contrary, Collins et al[7] reported that 4 of 8 cancers involving Bartholin gland had node metastasis, all of which were adenocarcinomas, while in 4 cases of epidermoid type node metastasis was not found.

Treatment

As indicated by Masterson & Goss[16], all methods of therapy have been employed, including local excision, partial gland resection, radium, X-ray and radical vulvectomy with a complete inguinal and pelvic lymphadnectomy. These tumors are radiorsistant[27], and its lymphatic dispersion occurs on the same pattern as that of vulvar cancer. Bone involement is not uncommon. Obviously extensive vulvectomy with inguinopelvic lymphadnectomy employed as described for a vulvar cancer offers the best chance for survival. Substantial evidences are well indicated by the literature[2,7,23,31].

Prognosis

Strictly speaking, an end result is reliable only when it is well correlated with the method of therapy, extent of the disease, after a complete follow-up study. Unfortunately, it is quite impossible to evaluate the prognosis of carcinoma of the Bartholin gland by reviewing the literature. As illustrated in Table 4, those series included many cases which were lost to study and few authors correlated the prognosis to the method of treatment. Generally speaking, most of the authors claim a grave prognosis of less than

Table 3. Therapy of Primary Cancer of Bartholin Gland

Method of therapy	Aquinaga 1864-1944	Masterson & Goss 1944-1954	Barclay & Collins 1954-1963
local excision	32 (41.5%)	3 (7.5%)	5 (14.3%)
local excision & radiation	15 (19.4%)	4 (10.0%)	4 (11.4%)
radical excision with or without node removal	11 (14.2%)	10 (25.0%)	19 (54.3%)
same as above plus radiation	4 (5.2%)	2 (5.0%)	7 (20.0%)
radiation alone	1 (1.3%)	1 (2.5%)	
other or unknown therapy	14 (18.1%)	20 (50.0%)	
	77	40	35

Table 4. Prognosis of Carcinoma of Bartholin Gland

Authors	Number of cases	5 year survival		Remarks
		No.	%	
Wharton & Everett	109	9	8.2	2 epidermoid 2 adenocarcinoma 1 chanchoid
Aquinaga	77	3	3.9	15 died 56 (72.7%)unknown
Masterson &Goss	40	7	17.5	5 died 28 (7%) unknown
Barclay & Collins	27 (from the literature)	1	3.7	3 died 23 (85.1%) unknown
	8* (own cases)	2	25	3 died 3 (37.5%) unknown
Taussig	9*	3	33.3	
Sackett	3*	3	100.0	a. 5 yr. 5 m. (died of metastasis) b. 6 yr. L & W c. 7 yr. 9 m. (died of other diseases)
	1	0 (died less than 1 yr.)		

* Method of therapy is Radical vulvectomy & Lymphadnectomy

10% for tumor. Boughton[5] suggests that the tumor in its early stage, is a well capsulated lesion and should have a better prognosis than vulvar cancer. In advanced cases, the outcome is quite the same as that of the vulvar cancer. Taussig[31] reported a 5-year survival rate of 33.3% after extensive vulvectomy. Barclay[2], in presenting 8 cases with extensive vulvectomy with lymphadnectomy (with one exception) found two 5-year survivors, three deaths and three unknown cases, the 5-year survival rate being 25%. Collins et al[7], studied 67 vulvar cancers, treated by extensive vulvectomy with or without node dissection and found 40 five-year survivors, i. e., a 5-year survival rate of 59%. No particular mention was given of the 8 cases of primary cancer of the Bartholin gland inculuded in this series.

Saokett[23], in reviewing 4 cases of primary carcinoma of the Bartholin gland, indicated that 3 cases who had radical operation were living 5,6 and 7 years. Obviously, cases who had radical operation have good chances for survival.

CASE PRESENTATION

A 33-year-old pregnant woman, para 5, native of Taiwan, was admitted on Feb. 26, 1957 with the chief complaint of a painful mass developing in the left vulva. Since one year ago, she had noticed a painful solid mass developing in the left vulva and getting larger in size. On Oct., 1956, she underwent a simple excision of the mass by a practitioner, but it soon reappeared. Malignancy being suspected, biopsy was done by the doctor, three weeks prior to her admission.

Her menstrual history revealed the menarche was at the age of 15, regular with 30 day cycle, 3-4 day duration and moderate flow. The L. M. P. began on Sep. 9, 1956 and lasted 4 days. She was credited with five births: a boy and four girls.

Physical examination revealed a poorly nourished, moderately developed, slightly pale woman. Pulse; regular and well tensed. B. P.; 108/50 mmHg. Virchow's node; impalpable. Chest; n. p. Abdomen; soft and elevated, liver and spleen impalpable. Fundus uteri; 2 f. b. above the umbilicus. Presenting part was head. F. H. B. was audible on the right lower quadrant. On the left inguinal region, a pigeon egg sized, solid lymphnode was palpated. A left femoral node of thumb size was also palpated.

Local examination revealed an intact urethral orifice and almost intact vestivular mucosa except mucosa at 5 o'clock showed a peanut sized patch with papillomatous surface, connecting with a firm tumor of a small hen egg size, which extended toward ischiac tuberositus, perineum and lateral wall of low vagina, at the site correspondent to the Bartholin gland. The overlying skin of left labia major was intact except for the presence of a fistula located on the level of tuberositus ischiadicus. The right Barthoin gland appeared normal. Rectal examination revealed intact rectal mucosa except for the part 0.5 cm above the anal ring where the mucosa showed poor mobility because of the induration.

Laboratory findings:

R. B. C.; 3.28 mil. Hb.; 10 gm/dl W.B. C.; 5,600 Platelets; 243,000 Blood type; 0 E. S. R.; "& 27.5 (avera.) Bleeding time; 4 'Coagulation time; 5' N. P. N.; 25.2 mg/dl Glucose; 72 mg/dl Protein; 7.4 g/dl

B. U N.; 15.7 mg/dl Creatinin; 0.6 mg/dl

Urinalysis; protein (+), Sed. RBC, 20-30/HP. WBC, many. Ep., 5-10/HP. Cast, (−). Thorn test; normal

Cystoscopy; no abnormal signs

E. K. G.; normal

Chest X ray; essentially clear

Biopsy (Feb. 4, 1957); Epidermoid carcinoma with frequent mitosis and a great tendency towards keratinization.

Course after admission

She underwent lower cervical cesarean section, pelvic lymphadenectomy immediately followed by radical groin dissection on Mar. 6, '57. The fetus was dead and immature. The post-operative course was smooth and she was discharged on April 17, '57 in fair condition.

Follow-up study revealed that she gave birth to a boy one year after the operation and is living and well at the time of the latest contact on Aug. 25, '68, 11years and 6 months after the operation.

COMMENT

According to the literature, primary carcinoma of Bartholin gland is very rare, and its coincidence with pregnancy is extremely unusual. Only one instance reported by Murphy, Wilson and Bickel[17] could be found in the literature after a careful investigation.

They described a case of adenoid cystic carcinoma of the Bartholin gland in a 27-year-old pregnant woman who had undergone vulvectomy and left inguinal lymphadnectomy. Her pregnancy progressed normally and a normal full term infant was delivered by cesarean section because of transverse presentation, 5 months after the vulvectomy. The case presented here is an epidermoid carcinoma of the Bartholin gland occurring in a 33-year-old pregnant woman. A simple excision of the tumor was done by a practitioner who regarded the tumor as one of common Bartholin cyst, about 4 months prior to the admission. On admission, enlargement of inguino-femoral lymphnodes were noted clinically, with the tumor invading the vaginal mucosa. She was subjected to cesarean section, extensive vulvectomy and lymphadnectomy in one stage. She stood the operation well but the baby was immature and died very soon. Pathological study of the specimen removed revealed a necrotic expansive tumor measuring 3.1×4.3×3.2 cm, involving the left Bartholin gland, which had perforated into the mucosa of vaginal introitus. Among 25 nodes removed, one inguinal and one femoral were found to be involved. She gave birth to a boy one year after the operation and is living and healthy now, 11 years and 6 months after the operation. This is a good example suggesting that extensive vulvectomy with inguino-femoral node dissection is the the best an therapy for this kind of tumor, and the prognosis is not so pessimistic as indicated the literature.

SUMMARY

Review of the literature and report of one case of epidermoid carcinoma of the Bartholin gland in a 33-year-old pregnant woman was presented. The incidental occurrence of the tumor and pregnancy is extremely uncommon. She was subjceted to a radical vulvectomy and lymphadenectomy immediately after cesarean section in one stage. She is healthy now, 11 years and 6 months after the operation. It is impossible to evaluate the prognosis of Bartholin gland carcinoma by reviewing the literature, however, it can not be denied that radical surgery offers the best chance of survival.

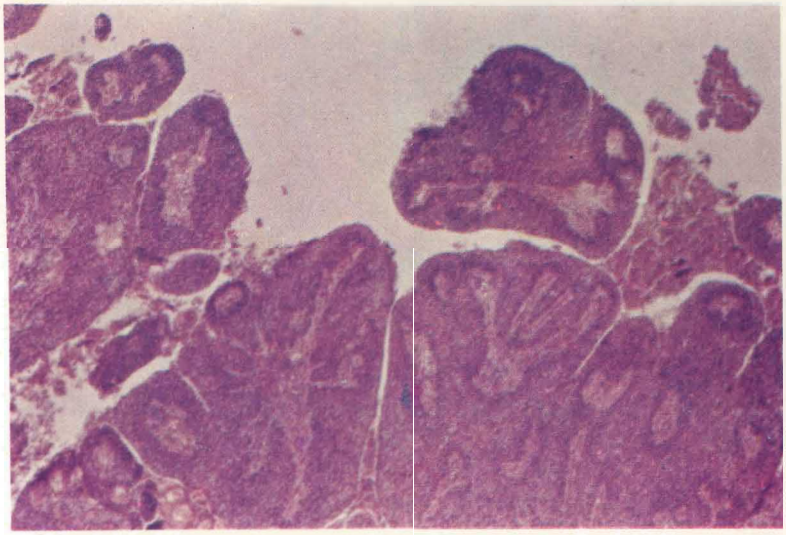
REFERRENCE

(1) AQUINAGA, A: Obst. y. Ginec. latino-Am. 178, 1944.
(2) BARCLAY, D. L. COLLINS, C. G., MACEY, H. B.: Obst. & Gynec. 24: 329, 1964
(3) BECKMANN, G.: Derma. Wchnschr. 100: 101, 1935.
(4) BERLINGIERI, D.: Arch. Obst. Ginec. 70: 344, 1965.
(5) BOUGHTON, T. G: Am. J. Surg. 59: 585 1943.
(6) CHABOUX, G.: These de doct., Lyon, 1906.
(7) COLLINS, C.G., COLLINS, J.H., BARCLAY, D.L., NELSON, E.W.: Am. J. Obst. Gynec. 87: 762, 1963.
(8) CROSSEN, R. J.: Am. J. Surg. 75: 597, 1948.
(9) DENNIS, E. J. III., HESTER, L. L. Jr., WILSON, L. A.: Obst. & Gynec. 6: 291, 1955.
(10) HARRIS, R. E.: Virginia Med. Monthly 93: 646, 1966.
(11) HONAN, J. H.: Inaugural disseration, Berlin, Germany, E. Ebering, 1897.
(12) HORITA: The World of Obst. & Gynec. 8: 1505, 1956.
(13) JARNECKE, H?.: Inaugural disseration, Hamburg, Germany, 1934.
(14) KATSU, K.: The Obstetrics & Gynecology, 9: 7, 1941.
(15) KLOB, J.M.: Pathologische Anatomieder Weiblichen Sexualorgane, Wien, 1864.
(16) MASTERSON, J. G. GOSS, A. S.: Am. J. Obst. & Gynec. 69: 1323, 1955.
(17) MURPHY, J., WILSON J. M. BICKEL, D.A.: Am, J. Obst. & Gynec. 83: 612, 1962.
(18) NITTA, H.: The obstetrics and Gynecology 2; 3, 1935.
(19) PAPE, W.: Deutsche med. Wchnschr. 33: 1620, 1907.
(20) PAYAN, H. KISH, M.: Obst. & Gynec. 25: 268, 1965.
(21) PUROLA, E.: Acta Obst. Gynec. Scand. 45: 205, 1966.

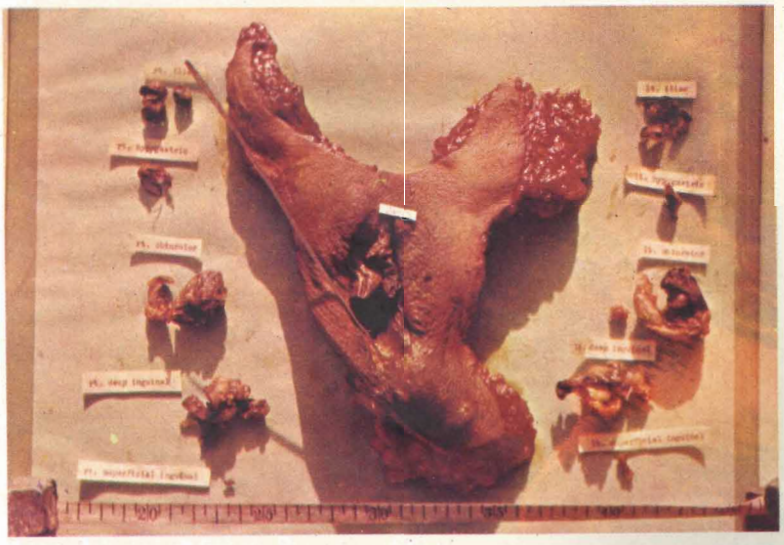
"Epidermoid Carcinoma of Bartholin Gland."

Pathologic No.
TPMC 24784...

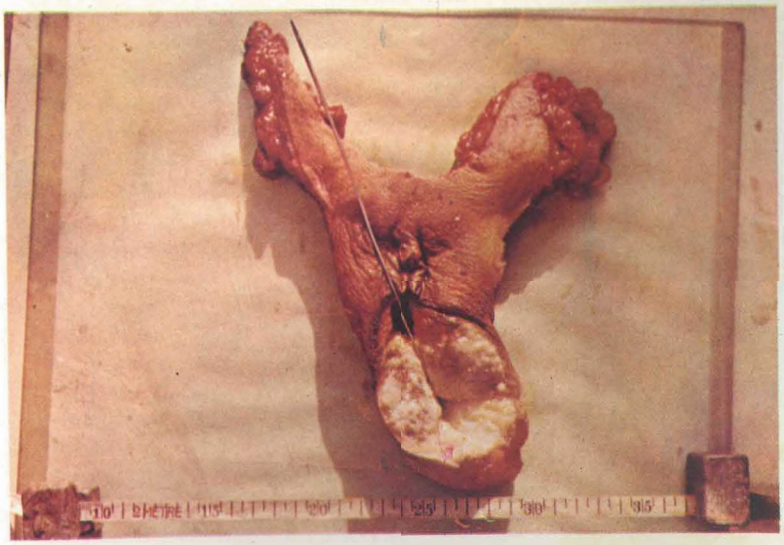
Low power view of epidermoid carcinoma arising from Bartholin gland. There is distinct papillary pattern and little tendency toward keratinization.



Gross appearance of the operative specimen, showing the tumorous protrusion of the left labia majora corresponding to the site of Bartholin gland.



Cut Surface of the tumor showing that the sound introduced freely from the papillomatous patch in the vestibulum corresponding to the orifice of Bartholin duct reached the deep part of the tumor.



(22) RABSON, S. M., MEEKER, L. H.: Surg. Gynec. & Obst. 67: 505, 1938.
(23) SACKETT, N. B.: Am. J. Obst. & Gynec. 91: 1149, 1965.
(24) SCHAEFFER, R.: Ztschr. f. Geburtsh. u. Gynaek. 50: 193, 1903.
(25) SCHNEIDER, P.: Zentralbl. f. Gynaek. 542: 1986, 1930.
(26) SCHWEIZER, F.: Arch. Gynaek. 44: 322, 1893.
(27) SHERMAN, A. I.: Cancer of the Female Reproductive Organs, pp. 252, 1968.
(28) SIMENDINGER, E. A.: Surg. Gynec. & Obst. 68: 952, 1939.
(29) SINN, W.: Inaugural dissertation, Marburg, 1880.
(30) SITZENFREY, A.: Ztschr. Geburtsh. u. Gynaek. 58: 365, 1906.
(31) TAUSSIG, F. J.: Am. J. Obst. & Gynec. 40: 764, 1940.
(32) WAY, S.: Ann. Roy. Coll. Surgeons England 3: 1187, 1948.
(33) WHARETT' HS: Obst. & Gynec. Survey 6: 1, 1951.

巴氏腺原發性癌腫與妊娠合併症例

臺北醫學院婦產科

徐千田 鄭永盛 林其祥

原發性巴氏腺癌，爲婦科惡性腫瘍中最稀有之一。迄今世界上報告的例數，不逾 200例，尤其像本例與妊娠合併發生者，更屬罕見。本例爲 33 歲的家庭主婦，妊娠七個月中來院求診時，發現左側巴氏腺有 3.1×4.3×3.2 公分的原發性上皮癌，已穿破陰道口黏膜。且在25個剔出的淋巴腺中，證明鼠蹊腺、股腺的癌細胞，已經各在轉移。因病家聲明不需再行生育，乃立即施行剖腹生產；並做根治性的外陰部剔除，和鼠蹊部、股部，以及骨盆壁等部的淋巴腺清除手術。但一年過後，竟又懷孕，屆滿孕期還安產了（自然陰道生產）一個健康的男嬰。迄今十二年之久，母子雙存而健康。本例患者仍健在人間。