CASE REPORTS-1963 症 例 報告-1963年

# DEVELOPMENTAL DEFORMITIES POSSIBLY DUE TO THALIDOMIDE A CASE REPORT

サリドマイドに起因したと思われる奇形の1例

YU IHNO, M.D. 飯野 祐 WALTER J. RUSSELL, M.D.

# TUBERCULOSIS OF STOMACH A CASE REPORT

胃噴門部の悪性腫瘍を思わしめた胃結核症の1例

YU IHNO, M.D. 飯野 冶 WALTER J. RUSSELL, M.D. KENZO ISHIDA, M.D. 石田 独 藏

# A CASE OF MALIGNANT MESODERMAL MIXED TUMOR OF THE UTERUS

子宮に発生した悪性中胚葉性混合腫瘍の1例

KAZUO KIMURA, M. D. 木村 和郎 SHUREI UEDA, M. D. 植田 秀樹 SABURO MIHARA, M. D. 三原 三郎



# TECHNICAL REPORT SERIES 業績報告書集

The ABCC Technical Reports provide the official bilingual statements required to meet the needs of Japanese and American staff members, consultants, advisory councils, and affiliated government and private organizations. The Technical Report Series is in no way intended to supplant regular journal publication.

ABCC業績報告書は、ABCCの日本人および米人専門職員、顧問、評議会、政府ならびに民間の関係諸団体の要求に応じるための日英両語による記録である。業績報告書集は決して通例の誌上発表に代るものではない。

# A CASE OF MALIGNANT MESODERMAL MIXED TUMOR OF THE UTERUS

子宮に発生した悪性中胚葉性混合腫瘍の1例

KAZUO KIMURA, MD¹ 木村 和郎 SHUREI UEDA, MD² 植田 秀嶺 SABURO MIHARA, MD² 三原 三郎

ABCC Department of Pathology<sup>1</sup>, and Ueda Obstetrics-Gynecology Hospital, Hiroshima<sup>2</sup>

ABCC病理部1および植田産婦人科病院、広島市2



ATOMIC BOMB CASUALTY COMMISSION HIROSHIMA AND NAGASAKI, JAPAN

A Cooperative Research Agency of
U.S.A. NATIONAL ACADEMY OF SCIENCES - NATIONAL RESEARCH COUNCIL
and
JAPANESE NATIONAL INSTITUTE OF HEALTH OF THE MINISTRY OF HEALTH AND WELFARE

with fands provided by U.S.A. ATOMIC ENERGY COMMISSION JAPANESE NATIONAL INSTITUTE OF HEALTH U.S.A. PUBLIC HEALTH SERVICE

#### 原爆傷害調査委員会

広島および長崎

米国学士院 - 学術会議と厚生省国立予防衛生研究所 との日米共同調査研究機関

(米国原子力委員会、厚生省国立子防衛生研究所および米国公衆衛生局の研究費による)

# CONTENTS

# 目 次

LIST OF TABLES 挿入図表一覧表	Page	i
INTRODUCTION 緒 言		1
CLINICAL HISTORY 臨床病歴		1
PATHOLOGICAL DIAGNOSIS 病理解剖学的診断		2
GROSS FINDINGS 肉眼的所見		3
MICROSCOPIC FINDINGS 顕微鏡所見		4
DISCUSSION 考 按		7
Frequency 頻 度		7
Age and Site 年齢と部位		7
Past History 既往歷		8
Symptoms 症 状		8
Treatment 治 療		8
Prognosis 予 後		8
Clinical Diagnosis 臨床診断		8
Anatomical Findings 病理解剖的所見		9
Classification of Mesodermal Mixed Tumor 中胚葉性混合腫瘍分類		9
SUMMARY 総 括		12
REFERENCES 参考文献		24

# TABLES

# 揷 入 図 表

Table	1.	Histological patterns of primary and metastatic tumors	
表		腫瘍原発部, 転移部の組織像	6
	2.	Cases of mesodermal mixed tumor of the uterus reported in Japan	
		子宮に発生した中胚葉混合腫瘍の本邦発表例	15

## A CASE OF MALIGNANT MESODERMAL MIXED TUMOR OF THE UTERUS

## 子宮に発生した悪性中胚葉性混合腫瘍の1例

#### INTRODUCTION

Mesodermal mixed tumor of the uterus is a rare tumor and only 17 cases have been reported in Japan. An autopsy was recently done on such a case which is reported together with a review of the literature and some comments on the 18 cases in Japan.

#### CLINICAL HISTORY

The patient, a 63-year-old female, had been exposed to the A-bomb in Hiroshima at a distance of 3710 m from the hypocenter, with a radiation dose considered to have been negligible. On 8 March 1960 she visited Dr. Ueda's Obstetrics-Gynecology Hospital, Tate-machi, Hiroshima City with complaints of lumbago, urodynia and genital bleeding. Under the diagnoses of perimetritis and cystitis, she received daily treatment as an outpatient. On 7 April the first endometrial curettage was done and a diagnosis of "carcinosarcoma" was made at the Atomic Bomb Casualty Commission (ABCC) Department of Pathology. On 12 April she was admitted to Dr. Ueda's Hospital.

The laboratory tests at the time of hospitalization were as follows: RBC 2,230,000; WBC 7300; hemoglobin 54% (Sahli), anemic. Urinalysis: protein (+++), sugar (-), urobilinogen (-). The sediment contained erythrocytes (++), leukocytes (+) and epithelia (+) and a diagnosis of chronic nephritis was made.

At midnight on 19 April she had convulsions considered to be due to uremic coma for which she received treatment. The convulsions stopped on 21 April, and she regained consciousness on the following day.

On 5 July a second endometrial curettage was done and a diagnosis of adenocarcinoma was made.

### 緒言

子宮に発生する中胚葉性混合腫瘍は極めて希な疾患であり、本邦においては僅か17例の報告があるのみである。最近著者はその一剖検例を経験し得たのでこれを報告するとともに総計18の当腫瘍例に関し文献的考察を行ない、あわせて私見を加えて行きたいと思う。

### 臨床病歷

患者は63才の女子, 広島の爆心地より 3710 m の地点にいたもので, 照射線量は極めて微量であったと思われる. 昭和35年3月8日, 腰部痛, 排尿痛並びに性器出血を主訴として広島市立町 植田産婦人科病院を訪れ, 子宮外膜および膀胱炎の診断を受け通院する様になった. 4月7日, 第1回の子宮内膜試験切除を受け原爆傷害調査委員会 (ABCC) 病理部の検査によっていわゆる, "癌肉腫"と診断され 4月12日 植田病院に入院した.

入院時の検査により血液像は赤血球 223 万, 白血球 7300, Sahli 54% で貧血を示し尿は蛋白(H), 糖(一), ウロビリノーゲン(一), 沈渣には赤血球(H), 白血球(+), 上皮(+)が証明され慢性腎炎と診断が下された.

4月19日夜半, 痙攣発作が起り尿毒症性昏睡と見 做され処置された結果21日には痙攣が消失し, 翌日に は意識を回復した.

7月5日,第2回の子宮内膜試験切除を受け、この度は腺癌との診断が下された.

On 26 August a large amount of discolored necrotic tissue was spontaneously discharged from the uterine cavity. This was submitted for the third histological examination and a diagnosis of so-called "carcinosarcoma" was again made.

The following drugs were given during hospitalization.

#### Anti-cancer drugs:

Maitmycin (7 injections) Azan (16 injections) Sanamycin (22 injections)

#### Male hormone preparations:

Enarmon B (17 injections) Enarmon Depo (1 injection)

#### Radiation therapy:

Deep roentgen irradiation,  $5400\gamma$  ( $300\gamma \times 18$ ) Radium irradiation,  $30 \text{ mg} \times 24 \text{ hr} \times 6$ 

Treatment with antibiotics as well as symptomatic treatment were given.

From around 21 October cachexia increased and her appetite markedly decreased, her general condition deteriorated and death occurred on 2 November.

#### PATHOLOGICAL DIAGNOSIS

An autopsy ( ) was performed at the ABCC Department of Pathology, Hiroshima 3 hours after death. The pertinent anatomic diagnoses were:

Malignant mixed Müllerian tumor of the uterus (so-called carcinosarcoma or malignant mesodermal mixed tumor)

Tumor infiltration into the parametrium, ovaries, recto-uterine pouch, rectal wall and pubic bones

Tumor metastasis to lymph nodes in the sacral region, around the iliac artery and abdominal aorta

Tumor metastasis of the parietal bone, dura mater, inner surface of scalp and upper lobe of left lung

Acute suppurative endometritis, oophoritis, panperitonitis, and mesenteric lymphadenitis 8月26日,子宮腔より汚穢な壊死組織が多量に自 然排出せられ,これを第3回の組織検査に供した結 果,再度,いわゆる,"癌肉腫"の診断がなされた.

入院中に使用された薬剤は下記の通りである.

#### 抗癌剤

マイトマイシン注射 7本 アザン注射 16本 サナマイシン注射 22本

#### 男性ホルモン剤

エナルモンB注射 17本 エナルモン・デポー注射 1本

#### 放射線療法

レントゲン深部照射 5400γ (300γ×18回) ラジウム照射 30mg 元素×24時間×6回 その他, 抗生物質並びに対症療法がなされた.

10月21日頃より悪液質が頓に増強し食慾も著しく 減退,全身状態も悪化して11月2日,遂に鬼籍に入った。

## 病理解剖学的診断

解剖 (は広島 ABCC 病理部において行なわれ死後3時間を経過していた、主要な病理解剖学的診断は次の通りである.

子宮の悪性ミュルレル管性混合腫瘍 (いわゆる, "癌肉腫"または悪性中胚葉性混合腫瘍)

子宮旁周囲組織, 両側卵巣, 直腸子宮窩, 直腸壁, 両恥骨部への腫瘍浸潤

仙骨部,腸骨動脈周囲,腹部大動脈周囲,リンパ 節への腫瘍転移

頭頂骨, 硬膜, 頭皮内面, 左肺上葉への腫瘍転移

急性化膿性子宮内膜炎, 卵巣炎, 汎腹膜炎および 腸間膜リンパ節炎 Cystitis, chronic

Hydroureter and hydronephrosis, bilateral

Pyelonephritis, left

Acute suppurative splenitis

Fatty degeneration, liver

Cerebral edema

Residual squamous epithelial cells in pituitary body

#### GROSS FINDINGS

The uterus measured 9 x 9 x 5 cm and was A hemorrhagic yelslightly larger than normal. lowish-brown, soft, polyp-like tumor 3 cm in diameter projected into the vaginal cavity. Sagittal section of the uterus revealed similar tumor extending diffusely throughout the endometrium and there was also suppurative inflammation suggestive of secondary infection. The greater part of the muscular layer of the anterior wall of the uterus was involved by a spherical yellowish-brown, hemorrhagic, soft tumor about 4 cm across. The muscular layer of the uterine fundus was normal, but the posterior wall of the uterus was completely replaced by tumor tissue. Infiltration extended posteriorly beyond the rectouterine pouch to the rectal wall and dark red tumor could be seen through the rectal mucosa. Lateral involvement extended beyond the parametrium to both ovaries and anteriorly to both pubic bones where there were large oval tumor formations with destruction of part of the pubic bones. tumor on the right was 5 cm in maximum diameter and that on the left 10 cm in maximum diameter. They were soft and yellowish-brown; hemorrhagic areas were seen here and there as in the primary focus.

Oval metastatic tumor masses were noted in the lymph nodes in the sacral region and around the iliac artery and abdominal aorta, the largest being 4 cm in maximum diameter. They were soft and the cut surface grey-white with scattered hemorrhagic foci. Upon removing the scalp, a raised discoid metastatic tumor  $5 \times 5 \times 2$  cm was observed on the inner surface in the parietal region. In the corresponding area of the skull, several irregular defects of the bone due to tumor metastasis were observed. The largest defect was 2 cm in maximum diameter. On the dura mater facing this

慢性膀胱炎

両側尿管拡張症および水腎症

左側腎盂腎炎

急性化膿性膵臓炎

肝臓脂肪変性

脳浮腫

脳下垂体における扁平上皮細胞残遺

# 肉眼的所見

子宮は 9×9×5cm と幾分大きくなっており脖腔 内へ直径 3 cm の出血性, 黄褐色, 柔軟な腫瘍がポ リープ状をなして突出しているのが見られる. 子宮に 矢状断を入れると子宮内膜全体に亘り同様な腫瘍が瀰 漫性に拡がり同時に二次感染を思わしめる化膿性炎症 が認められる. 子宮前壁の筋層は球状の直径約 4 cm に及ぶ黄褐色,出血性の柔軟な腫瘍によって,その大半 が占められ他方,子宮底部には健全な筋層を認めるが、 子宮後壁は完全に腫瘍組織によって 置換せられてい る. 浸潤は後方直腸子宮窩を越えて直腸壁に及び暗赤 色の腫瘍を直腸粘膜面から透視し得る. 側方へは子宮 旁組織を経て両側卵巣にまで達し前方へは両側恥骨部 に楕円形の大きな腫瘤形成となって恥骨の一部破壊が 認められる. 右側のものは最長径 5 cm, 左側のもの は最長径 10cm にも達し、柔軟で原発巣と同様、黄 褐色, 出血性の部分が処々に観察せられる.

仙骨部、腸骨動脈周囲、腹部大動脈周囲のリンパ 節には楕円形塊状の腫瘍転移が認められ、最大のもの は4cm の最長径を有して柔軟で割面は灰白色、処々 に出血巣を見る、頭皮を剝ぐと頭頂部に相当する頭皮 内面に円板状に隆起し5×5×2cm の腫瘍転移が認 められる。その部に相当する頭蓋骨にも不規則な腫瘍 転移による数個の骨欠損が観察され最大のものは2cm の最長径を示している。またこの部に面した脳硬膜の part of the skull, similar metastatic tumors with a semi-circular raised surface were seen.

Both ureters were slightly dilated due to compression by the tumor, and showed a circumference of 2.5 cm at 4 cm from the renal pelvis. The renal pelvis was slightly enlarged and contained a small amount of turbid urine. In the abdominal cavity, a small amount of yellowish-white, purulent ascites was noted.

#### MICROSCOPIC FINDINGS

Microscopically, the tumor of the uterus presented a complicated histological picture with an intermixture of carcinoma and sarcoma as well as areas of undifferentiated tumor which resembled neither carcinoma nor sarcoma.

In the carcinomatous areas, a large number of alveolar structures were seen with definite lumen formation, but in some parts this feature was less The carcinoma cells were cylindrical, definite. rather large and arranged in one or more layers. The cytoplasm was comparatively eosinophilic and the cell border was not well defined. The nucleus was elliptic, atypical in size and shape, the chromatin scanty and the nuclear membrane distinct. Occasionally an eosinophilic nucleolus was noted. In some places clumping of chromatin and mitoses suggesting malignancy were observed. pregnation revealed definite alveolar structure and no connective tissue was seen between the tumor Periodic acid Schiff (PAS) staining was cells. Scattered among these carcinomatous negative. alveolar foci were areas where part of the stroma seemed to show malignant changes. In other words, a mixed pattern of carcinoma and sarcoma was ob-After silver impregnation, served side by side. carcinoma with definite alveolar structure could be clearly distinguished from sarcoma in which there was fine fibrous invasion between cells.

The sarcomatous areas consisted of long spindle-shaped cells arranged in bundles suggesting fibroor myosarcoma. The cytoplasm was eosinophilic, abundant, and not well defined. The mucleus was elliptic or spindle-shaped and some were irregular in shape. The tip of the nucleus was blunt. The chromatin was abundant though it may have varied in degree and in general stained darkly. No nucleoli were noted. A few scattered mitoses were

頭蓋面には半円状に隆起する類似の腫瘍転移が認められた.

その他,骨盤部腫瘍の圧迫により両側尿管は軽度に拡張し腎盂から4cmの処で2.5cmの周径を示し, 腎盂も軽度に拡大されて少量の溷濁尿を容れている. 腹腔内には少量ではあるが黄白色膿性腹水が認められる.

### 顕微鏡所見

子宮腫瘍鏡検は多彩な組織像を示し癌腫部分肉腫 部分そして何れとも判別し難い未分化腫瘍部分などが 混在している.

癌腫部分には多数の胞巣状構造が見られ, 明らか な管腔を形成するところや、それが幾分不明瞭となっ た部分などが認められる.癌細胞は円柱状,やや大形 で一層から数層の配列をなし細胞質は比較的好酸性で 細胞境界は余り明らかではない、核は楕円形、大きさ 並びに形態に異型性があり、クロマチンは少なく核膜 は明瞭, 時に1個の好酸性の核小体を認める. 処々に クロマチンが塊状に集積し核分裂なども観察せられ悪 性像を思わしめる所見を呈している. 鍍銀染色による と明らかな胞巣状構造が確立されており, 腫瘍細胞間 への線維の侵入は全く観察せられない. Periodic acid Schiff (PAS) 染色は陰性を示している. 次にこれ等 の癌胞巣の間に散在して一部間質が悪性変化を起した 様な感を呈する部分がある. すなわち癌腫部分を肉腫 部分とが相接して混在し鍍銀染色によって胞巣構造の 明らかな癌腫部分と線維が細かく細胞間に侵入してい る肉腫部分とが判然と区別され得る.

肉腫部分には線維肉腫,或は筋肉腫を思わせる様な長紡錘形細胞が束状をなして配列するのが認められる。細胞質は好酸性,豊富で境界は余りはっきりしない。核は楕円形ないしは紡錐形で不整形のものもあり核端は鈍である。核質は差こそあれ一般に豊富で全体に暗い感じを与え核小体は認められない。少数ではあるが処々に核分裂が観察せられる。PAS 染色により

observed. PAS staining revealed no positive material and on Van Gieson's staining the cytoplasm was uniformly yellow. No cross striations were demonstrated with phosphotungstic acid hemotoxylin (PTAH) staining.

In the undifferentiated areas which could not be labelled as carcinoma nor as sarcoma, irregularly shaped cells were arranged as in carcinoma simplex with no definite alveolar structure. The cytoplasm was moderate in amount, basophilic and pale, when compared with the typical carcinomatous areas. The cell border was indistinct, the nucleus irregularly shaped rather than elliptical, and varied in The appearance of the chromatin varied greatly, some light, some dark, and some clumped into a single mass. In general these parts were less uniform than the carcinomatous and sarcomatous areas and mitoses were frequent. Many of these groups of cells had extensive central necrosis. With routine staining, these areas resembled carcinoma whereas by silver impregnation these areas showed invasion of fibers as seen in the sarcomatous areas. No PAS-positive material was noted. These areas were considered as undifferentiated tumor resembling both carcinoma or sarcoma.

In the tumor lining the uterine cavity, there was a mixture of this carcinomatous and sarcomatous tissue. In some places, polykaryocytes were seen scattered among cells of various sizes suggestive of polymorphous sarcoma and in some parts the interstitial connective tissue was thickened and hyalinized. In some parts of the carcinoma squamous metaplasia had occurred, resembling adenocanthoma.

The tumor in the parametrium was histologically similar, and in both ovaries a mixture of moderately differentiated adenocarcinoma and undifferentiated tumor components were seen. Tumor infiltrated the rectum from the serosal surface through the muscle layer to the tunica propria of the mucous membrane. This was primarily adenocarcinoma with extensive central necrosis. No evidence of tumor was noted in the epithelium of the rectal mucosa, but the tumor had produced marked compression atrophy.

The tumor in the right pubic region consisted of well differentiated adenocarcinoma and in one part a squamous appearance was observed. The tumor in the left pubic region consisted largely of well differentiated adenocarcinoma as in the right pubic 陽性物質は認められずVan Gieson 染色によって細胞質は一様に黄色に染まる。 phosphotungstic acid hemotoxylin (PTAH) 染色を以てしても 細胞質内に横紋条を観察し得なかった。

癌腫、肉腫いずれともつかぬ未分化な部分は不規則形の細胞が恰も単純癌の様に配列し、はっきりとした胞巣構造をとつていない。細胞質は中等量で好塩基性、定型的な癌腫部分と比べて蒼白な感じを与える。細胞境界は不鮮明、核は楕円形と云うよりはむしろ不整形で大小不同があり核質は一定せず或るものは淡明、或るものは濃厚でクロマチンの1塊をなすものも認められる。総じて癌腫部分、肉腫部分よりも異型性が強くしばしば核分裂も存在する。その細胞群の多くは中央に広汎な壊死を伴っているのが観察される。この部分の普通染色が、むしろ癌腫部分に似るのに反し鍍銀染色では肉腫に似た線維の侵入像が認められる。PAS陽性物質は此処でも全く認められない。すなわち此の部分は癌腫および肉腫の何れにもよく似た未分化な腫瘍成分から成るものと考えられる。

子宮腔を蔽う腫瘍には前記の癌腫部分および肉腫部分が混在し場所によっては多形細胞肉腫を思わしめる大小不同な細胞に混じって多核巨細胞が散在する像も観察される。そして一部には間質結合織が肥厚して硝子化している部分もあり、又癌腫部分の一部に扁平上皮化生が起って腺棘細胞腫に似た所見も得られた。

子宮旁結合織における腫瘍は前記の部分と同様な 組織構成を示している。両側卵巣においては中等度に 分化した腺癌と未分化腫瘍成分との 混 在 が 認められ る。直腸において腫瘍浸潤は奨膜面から連続的に筋層 を経て粘膜固有層にまで達しており、腺癌が主体をな して中央に広汎な壊死を示している。直腸の粘膜上皮 細胞は腫瘍化を認めず腫瘍による圧迫萎縮像を高度に 呈している。

右恥骨部の腫瘍はよく分化した腺癌から成り一部 に扁平上皮化生が観察せられる。左恥骨部の腫瘍は右 側と同様その大半が良く分化した腺癌からなる。一部 に紡錘形細胞肉腫を思わしめる部分も認められるが特 region. In some places, areas suggestive of spindlecell sarcoma were noted but noteworthy is the presence of groups of cells suggestive of myxoma. These cells were joined to each other by stellate cytoplasmic processes. The cytoplasm was slightly eosinophilic and the nucleus elliptic and occasionally slightly atypical. In addition, areas of apparently polymorphous sarcoma were seen with foci of bone tissue considered to be remnants of the pubic bone.

The periaortic lymph nodes contained mainly spindle-cell sarcoma and polymorphous sarcoma. In some places, tumor cells were arranged neatly in bundles suggestive of myoma and areas which stained uniformly yellow by Van Gieson's staining were also noted, but cross striations were not evident with special stain (PTAH). The metastasis to the skull, scalp and dura mater consisted mainly of undifferentiated tumor. In the upper lobe of the left lung, tumor embolism was noted with slight infiltration into the alveoli, where the structure was that of adenocarcinoma.

The histologic structure of the primary tumor and metastatic foci is illustrated in Table 1.

記すべき事は粘液腫と思われる 細胞 集 団の存在である。すなわちこれらの細胞は星芒状の細胞質突起を以て互いに連なり合っている。細胞質は淡好酸性で核は楕円形,時に軽度の異型性を認める。他に多形細胞肉腫と思われる部分も混在し処々に骨組織も観察せられるが,これは恥骨の残骸であると考えられる。

大動脈周囲のリンパ節は主に紡錘形細胞肉腫,多形細胞肉腫よりなり一部に腫瘍細胞が奇麗に東状配列をとってあたかも筋腫をおもわしめ Van Gieson 染色で一様に染まる部分も認められたが,特別染色 (PT AH) は横紋条陰性であった.頭蓋骨,頭皮,脳硬膜の転移部は主に未分化腫瘍部から構成されている.左肺上葉には腫瘍塞栓が認められ,同時に軽度の肺胞内への浸潤を伴っていて此の部では腺癌の構造が確認せられる.

以上述べて来た腫瘍の原発巣および転移巣における組織構成を図示すれば表1の如くになる.

TABLE 1. HISTOLOGICAL PATTERNS OF PRIMARY AND METASTATIC TUMORS 表 1 腫瘍原発部、転移部の組織像

	Site 部位	Adeno- carcinoma 腺癌	Squamous metaplasia 扁平上皮化生	Undifferen- tiated malig- nant tumor 未分化悪性腫瘍	sarcoma	Polymor- phous sarcoma 多形細胞肉腫	Hyalinized stroma 基質の 硝子様変化	Myxoma 粘液腫
	Vaginal Portion 陸部	0		0		4		
**	Anterior Wall 前壁	0	41	0	0		0	
Uterus 子宫	Posterior Wall 後壁	0	0	0		0	0	
3 14	Cavity 腔	0	0	0	0	0	0	
Left Ov	ary 左卵巣	0		0				
Rectum	直腸	0						
Right P	ubic Region 右恥骨部	0	0					
Left Pu	Left Pubic Region 左恥骨部		0		0	9	0	0
	Periaortic 大動脈周囲部			0	0	0	0	
Lymph Node	Peri-External Iliac Artery 外腸骨動脈。					0	0	
リンパ節	Peri-Internal Iliac Artery 内腸骨動脈。			0				
Left Lung 左肺		0						
Scalp 頭皮				0				
Parietal Bone 頭頂骨				0				
Dura Mater 脳硬膜				0				

#### DISCUSSION

Frequency. With this case 18 cases of uterine mesodermal mixed tumor have been reported in Japan since 1914 when Hisatome reported his first case (Table 2). It is not possible to know the frequency of this disease because the total number of patients with malignant tumors of uterus in the population is not known. However, the small number of cases indicates that it is a very rare tumor. Some statistical information for this disease in other countries is of interest. Sternberg<sup>1</sup> noted carcinosarcoma in 0.08% of gynecologic in-patients in Charity Hospital during 6 years and Ahumada<sup>2</sup> reported 11 cases (0.04%) of uterine mixed tumor among 27,000 gynecologic in-patients during 20 years. According to Marcella,3 11 cases of mesodermal mixed tumor were noted at Carfield Memorial Hospital in the 16 years prior to 1957, which is 0.07% of the gynecologic in-patients. These results in other countries show that uterine mesodermal mixed tumor occurs in less than 0.1% of gynecologic inpatients.

Age and Site. The age of occurrence of this tumor in Japan ranges from 1 to 76 years, and the average is 46.5 years. Of 5 cases in which the tumor had developed in the vaginal and cervical regions the age ranged from 1 to 56 years. 12 cases which had developed in the uterine body ranged in age from 31 to 76 years. The frequency of occurence in the uterine body is 2.4 times as high as that in the vaginal and cervical regions. With reference to the relationship between age and the site of occurrence, Hill et al4 have pointed out that mesenchymoma of the uterine body develops most frequently after menopause and that of the cervical region occurs most frequently during the maturity period. Marcella3 states that 9 of his 11 cases were in the uterine body and 1, which was a young case, was in the cervical region. Willis5 reports that the occurrence of this tumor in the cervical region is high in those under 40 years of age and that in the uterine body it was high in the fifth decade. With reference to the relationship between the site of occurrence and age, Sternberg1 has made the interesting suggestion this tumor originated in the endometrial stroma. In children, remarkable stroma can be seen in the cervical region and upper vaginal and is histologically similar to endometrial and Müllerian stroma. He states that this fact explains the high frequency of uterine mesodermal mixed tumor in the vaginal and cervical regions in the young and in the uterine body in the old.

## 考 按

頻度 大正3年の久留例に始まって本邦に子宮中 胚葉性混合腫瘍18例の報告がある(表2),しかし、本 症がどれ丈の頻度で出現しているかは、人口集団にお ける子宮悪性腫瘍患者の総数が不明であるから到底知 り得ぬ事である.しかしながら18の数字が物語る様に 此の腫瘍が極めて希なものであることは全く疑う余地 も無い. 今この統計的数値を外国例に 求めてみると Sternberg<sup>1</sup> は Charity 病院 6 年間の婦人科入院 患者 の0.08%に癌肉腫を認め Ahumada2 は 20年間27,000 人の婦人科入院患者中に11例(0.04%)の子宮混合腫 瘍を報告している. また Marcella3 によると, 1957 年から遡る16年間, Carfield 記念病院で中胚葉性混合 腫瘍の11例が見られ、これは同時期の婦人科入院患者 の0.07%にあたるという、すなわち、これら外国例も 子宮中胚葉性混合腫瘍が婦人科入院患者の0.1%を越 えぬことを示している.

年齢と部位 本邦における当腫瘍の年齢域は1才 から76才に及んでおり、その平均年齢は46.5才であ る. この内, 膣, 頸部に発生したものは5例で1才か ら56才の範囲にあり、また体部に生じたものは12例で 31才から76才までの範囲であった、発生頻度において は体部が膣、頸部の2.4倍にも達している。年齢と発 生部位との関係において、Hill 等4 は体部の間葉細 胞腫が閉経後に多く頸部のものは成熟期に多い事を指 摘しており、また Marcella 3 の11例中の9 例は体部に 起り、1例は頸部に起って年が若かったと述べてい る. また Willis 5 によれば頸部発育をするものは40才 までに多く、体部発育をするものは60代に多いと述べ ている. この部位と年齢との関係について Sternberg1 は興味ある示唆を興えている. すなわちこの腫瘍の起 源は子宮内膜間質であるが、子供においては子宮の頸 部並びに上部膣部に著明な間質が見られ組織学的に子 宮内膜間質やミュルレル管間質と同じであると云う. そしてこの事実により子宮中胚葉性混合腫瘍が若年者 では膣,頸部に多く,高年者では体部に多いという事 が裏付けられると述べている.

The average number of preg-Past History. nancies in the 11 parous women was 3.5. were 4 nonparous women so that it is questionable whether there is any relationship between the number of pregnancies and the development of this It is well known that malignant tumors tumor. develop after exposure to radiation. What is the relationship between x-ray irradiation and uterine mesodermal mixed tumor? Of the cases reported in Japan, 6 have a past history of x-ray therapy and although the case reported here experienced the A-bomb 15 years ago at 3710 m the radiation dose Lisa et al6 states that of his 13 was negligible. cases, 4 had received x-ray therapy, and Symmonds7 states that 5 of 9 of his cases had received x-ray therapy. In general there is an interval of more than 10 years between such therapy and the occurrence of tumor. However, Sternberg1 states that in his 21 cases there was no past history of x-ray therapy and the low frequency of malignant mesodermal mixed tumor in spite of the current practice of x-ray or other radiation therapy for uterine carcinoma does not support the theory of radiation These reports would seem to indicate that irradiation played little, if any, role in the development of these tumors.

Symptoms. Of the 18 reported cases, genital bleeding was noted in 15, leukorrhea in 4, tumor sensation in 3, abdominal pain in 2. According to Hill,<sup>4</sup> abnormal genital bleeding was noted in all of his 21 cases and is considered to be the main symptom of this tumor.

Treatment. Hysterectomy was performed in 9 cases, oncotomy in 2, and 6 received radiation therapy and symptomatic treatment. In 1 the treatment is unknown.

Prognosis. Of these cases 13 died, 4 were dicharged after improvement but the subsequent condition is unknown. The course is unknown in 1 case. The period of survival from the onset of symptoms to death ranges from 8 months to 2 years and 7 months. The period of survival from operation to death ranges from 12 hours to 10 months, averaging 7.3 months. According to Marcella et al<sup>3</sup> the average period of survival after diagnosis is less than 1 year.

Clinical Diagnosis. Excluding the case reported here, in which a definite diagnosis had been obtained by biopsy before death, the breakdown of

既往歴 妊娠に関しては11名の経産婦の妊娠平均 回数は3.5回である反面、未産婦も4名に達しており 妊娠回数と本腫瘍との間に関連性を求め難い. 放射能 の照射により悪性腫瘍が発生する事は衆知のところで あるが、×線照射と子宮中胚葉性混合腫瘍の発生との 関係は如何なるものであろうか. 本邦例において6例 にx線治療の前歴があり、また本症例も15年前に原爆 に被曝しているが、被爆距離は3710 mであって照射 線量は微量である. Lisa 等 6 は13 例中 4 例に, Symmonds 7 は9 例中5 例に x 線療法が証明されたと述べ ており、かかる治療と腫瘍発現との間には普通10年以 上の間隔が存する. しかしながら Sternberg 1 の21例 に全くx線照射の前歴が認められぬ事,並びに現今, 子宮癌の療法に×線その他の放射線治療が行なわれて いるにも拘らず悪性中胚葉性混合腫瘍の発生率が余り にも低過ぎる事などは放射能誘因説に対する反論と云 うべきものである. これらの報告の示すところによれ ば、放射線が仮に腫瘍発生に何らかの役割を演じてい るとしても,その役割は小さいと思われる.

症状 本邦例18例中15例に性器出血を認め、次で 帯下4例、腫瘍感3例、腹痛2例、その他となっている。Hill4によれば異常性器出血は彼の21例中、全症 例に認められ本腫瘍の主症状と見做されるべきものである.

治療 本邦例において子宮剔出を受けたもの9 例,腫瘍剔出は2例,放射線照射ならびに対症療法6 例,不明1例となっている.

予後 本邦例中,13例は死亡,4例は軽快退院したがその後の状態は不明,1例は転帰不明となっている。症状発現後死亡するまでの生存期間は8か月から2年7か月の間に及び,また手術後死亡までの生存期間は12時間から10か月であり平均7.3か月である。Marcella等3によれば診断後の平均生存期間は1年以下であると云う。

臨床診断 試験切除による検索の結果,診断を生 前に確定し得た本症例を除き,臨床診断の内訳は子宮 clinical diagnoses was as follows: uterine carcinoma, 4 cases; uterine sarcoma, 5; hysteromyoma, 6; unknown, 2. It is impossible to make a definite diagnosis based only upon symptoms. Even when biopsy is performed it is difficult to obtain a specimen that includes both carcinomatous and sarcomatous areas. In this case, the second biopsy contained differentiated adenocarcinoma only.

Anatomical Findings. Gross examination revealed tumor formation ranging in size from a sparrow's egg to that of a human head. It is noteworthy that polyp formation was noted in 6 or in ½ of the cases.

Metastases were not d in the intra-abdominal cavity in 5, in the regional lymph nodes in 5, in the pelvis minor of 4, in the lung, liver and ovary in each of 3 cases, and in the skull of 2 cases.

Classification of Mesodermal Mixed Tumor. The histologic pattern of this tumor in cases reported shows that they consist of various combinations as in Table 2. These histologic patterns were reviewed and the past classifications analyzed. Ogata<sup>8</sup> has classified mixed tumors as follows:

- Simple mixed tumor (mesenchymal mixed tumor)
- Relatively complicated mixed tumor (ectodermal mixed tumor, mesodermal mixed tumor, endodermal mixed tumor)
- 3. Very complicated mixed tumor (tridermal mixed tumor)

The tumor, so-called carcinosarcoma, which is being reported here, clearly belongs to mesodermal mixed tumor of Group 2.

The histologic pattern of Hirono's cases consisted only of nonepithelial tumor and is considered to belong to the category of mesenchymal mixed tumor of Group 1. Therefore, this case was excluded from Group 2.

Study of the 18 cases reported in Japan indicates that they may be roughly divided as follows:

 Those consisting of combinations of benign epithelial and benign nonepithelial tumor (Watanabe's and Yoshimitsu's cases) 癌4例,子宮肉腫5例,子宮筋腫6例,不明2例となっており,単なる症状の上からの確診は不可能である。また試験切除を行なったとしても癌腫部分および肉腫部分の両要素を同時に含む様な組織片を得る事は仲々難しく,本例においても第2回目の組織検査ではただ分化した腺癌を見るのみであった。

病理解剖的所見 肉眼的には大は人頭大から小は 雀卵大に至る腫瘍形成が見られ、殊に注意すべき事は polyp 形成 6 例と全症例の ½ を占めている 事であ る.

転移部位としては腹腔内5例,領域リンパ節5例,小骨盤内4例,肺,肝,卵巣各3例,頭蓋骨2例その他となっている。

中胚葉性混合腫瘍分類 発表例における本腫瘍の 組織像を眺めて見ると、表2における様に多彩な組み 合わせからなっている。ここにおいてそれ等の組織像 を分析、整理し従来の分類に再検討を加えて行きたい と思う。

先ず混合腫瘍の分類であるが緒方®によれば

- 1. 簡単な混合腫瘍(間葉性混合腫瘍)
- 2. 比較的複雜な混合腫瘍(外胚葉性混合腫瘍,中胚 葉性混合腫瘍,内胚葉性混合腫瘍)
- 3. 極めて複雑な混合腫瘍(三胚葉性混合腫瘍)

いま問題となっている本腫瘍(いわゆる癌肉腫) は明らかに第2群の中胚葉性混合腫瘍に属する.

従来, 広野例<sup>®</sup>はその組織像が非上皮性腫瘍のみからなり間葉性混合腫瘍―第1群に層するものとして第2群から除外した.

以上本邦18例の組織像を検討していくと明らかに 次の様な4群に大別せられる、すなわち

1. 良性な上皮性腫瘍と良性な非上皮性腫瘍との 組み合わせからなるもの(これは渡辺例、吉満例に見 られる)

- Those consisting of malignant epithelial and malignant nonepithelial tumor (Case of Hisatome, Takizawa, Takeoka (second case), Kushima, Tamai, Eguchi, Muto (first case), Oguchi, Kawashima, and Yoneyama, total 10)
- 3. Those which should be considered as belonging to Group 2 but contain differentiated tumor areas that are difficult to classify as epithelial or nonepithelial (Case of Masufuchi and the case reported here)
- 4. Those in which the degree of malignancy of either epithelial or nonepithelial parts is not clear (Case of Murasugi, Takeoka (first case), Mashita, and Mizunuma)

If the above Groups 1 to 3 are to be named, Group 1 can be called benign mesodermal mixed tumor of uterus, Groups 2 and 3 malignant mesodermal mixed tumor of uterus, and further Group 2 may also be termed so-called carcinosarcoma because carcinoma areas are clearly differentiated from sarcoma areas. From the viewpoint of histogenesis, Group 3 is a tumor of very high malignancy corresponding to the stage where epithelial elements and nonepithelial elements cannot be distinguished while Group 2 is malignant tumor of lower malignancy than Group 3, corresponding to the stage where epithelial elements and nonepithelial elements are distinguishable and Group 1 is benign tumor corresponding to the stage where differentiation is more apparent.

The above division is believed to be clearer from the standpoint of prognosis and histogenesis than the various names applied in the past such as carcinosarcoma, botryoid sarcoma (which includes cases of pure sarcoma), mesodermal mixed tumor, mixed Müllerian tumor, malignant mesenchymoma, etc.

The tumor reported here is called mesodermal mixed tumor because according to Sternberg¹ the site of occurrence of this tumor is the stroma immediately beneath the uterine endometrial epithelium which indicates that it is of mesodermal origin. The stroma undergoes alteration to various tissue elements under some tumor-producing stimulation; in other words, there is physiological differentiation of epithelial and nonepithelial areas from the same mesodermal germ layer.

Malignant mesodermal mixed tumors may develop in the following 3 ways:

- 2. 悪性な上皮性腫瘍と悪性な非上皮性腫瘍との 組み合わせからなるもの (これは久留, 滝沢, 竹岡 (第2例), 九嶋, 玉井, 江口, 武藤 (第1例), 大口, 川島, 米山等の10例)
- 3. 2 群に属すべきものであるが、その中に上皮性と非上皮性の区別のつき難い様な極めて未分化な腫瘍部分を含むもの(増淵、本症例)
- 4. 上皮性, 非上皮性部分の何れかの悪性度がは っきりとしないもの (村杉, 竹岡 (第1例), 真下, 水沼の諸例)

以上の1~3 群に対し命名を企てるならば、第1 群に対しては"子宮良性中胚葉性混合腫瘍"、第2、 3 群に対しては"子宮悪性中胚葉性混合腫瘍"、更に 第2 群に対しては癌腫部分と肉腫部分とが判然として いるが故に"いわゆる、癌肉腫"なる名称を与え得 る. 組織発生の観点からすれば、第3 群は未だ上皮 性、非上皮性要素の区別のつかぬ時期に相当する悪性 度の極めて高い腫瘍であり、第2 群に属するものは上 皮性、非上皮性の区別が一応付いた時期に相当する悪 性腫瘍で前群よりは悪性度の低いもの、第1 群は更に 分化の進んだ時期に相当する良性腫瘍であると云え る.

以上の様に分類されるならば、今まで癌肉腫、ブドー状肉腫(この中には純然たる肉腫だけのものも含まれる)、中胚葉性混合腫瘍、ミュルレル 管性 混合腫瘍、悪性間葉細胞腫等と多様に呼ばれて来た名称に対し、予後の上からも、又、組織発生の上からも明確なる称が与えられ得ると確信する。

ここに中胚葉性混合腫瘍と呼ばれるゆえんは Sternberg<sup>1</sup>によると本腫瘍の発生母地が子宮内膜上皮 真下の間質であり、これはとりも直さず中胚葉由来の ものである事による。すなわちこれ等の間質が或る催 腫瘍性の刺戟の下にあらゆる組織要素に変って行くと 云う。すなわち上皮性部分並に非上皮性部分が同一中 胚葉性原基から生理的に分化して来るのである。

悪性中胚葉性混合腫瘍に関して次の3つの起り方 が考えられる. Collision tumor. Each part develops independently unrelated to each other at a single place by chance.

Composition tumor. The stroma of carcinoma undergoes carcinoma-like changes.

Combination tumor. Two kinds of tumor develop from the same mother cell.

As to collision tumor, Masufuchi states, "Unless it is demonstrated that the tumor develops multicentrically, it cannot be said to be collision tumor." On the other hand, collision tumor should be considered as definitely belonging to the category of duplicated carcinoma. Billroth11 stated, "In duplicated carcinoma, each tumor should show different histological patterns, and individual metastasis and develop at different places." As to the first 2 conditions, malignant mesodermal mixed tumor of the uterus has the characteristics of duplicated carcinoma, but as to the last condition of different sites of occurrence, it is impossible to demonstrate such a finding in a small organ as the uterus. the assumption that this tumor is a collision tumor, which is a kind of duplicated carcinoma, can be excluded.

Next, the question of composition tumor will be discussed. Of the reported 18 cases, not a single case demonstrated a difference in period of onset such as the development of carcinoma first followed by the development of sarcoma. Neither is a definite relation presently demonstrated with radiation therapy which is considered to induce sarcoma changes of the stroma in uterine carcinoma. As previously stated, the site of occurrence of this tumor is the stroma beneath the uterine endometrial epithelium and thus the theory of combination tumor in which it is said that both epithelial and nonepithelial elements originate from the same mother tissue can be considered as most appropriate.

The next problem is that this tumor might simply be uterine carcinoma in which the stroma shows sarcoma-like atypical changes which might merely be benign stromal reaction. Uterine carcinoma cases have shown findings suggestive of malignant changes of the stroma. However, the atypical changes of the stroma under such circumstances are less pronounced and can be easily distinguished from this tumor. Hill et al<sup>4</sup> have emphasized that for a definite diagnosis, the final proof is the

Collision tumor. 各部分が無関係に独立して 発生し偶然に一処で会するもの

Composition tumor. 癌の間質が肉腫的に変化したもの

Combination tumor. 2種の腫瘍が同じ母細胞から発生したもの

Collision tumor に関して増潤は "その腫瘍が多中心性に発したものであるという事が証明されぬ限り collision tumor とは云い得ない"と述べている。他方 collision tumor なるものを考えて見るとこれは明らかに重複癌の範疇に入れられるべきものである。Billroth によれば、"重複癌とは各腫瘍が異なった組織像を呈し、各個の転移を示し、かつ異なった場所に発生せねばならぬ"としている。最初の2項目に関しては子宮悪性中胚葉性混合腫瘍は重複癌の性格を帯びるが最後の異なった発生場所という点に関しては、小さな子宮内でそれを証明する事は不可能な事である。こうして本腫瘍が重複癌の一種たる collision tumorであると云う想定は自ら消滅していくのである。

次に composition tumor の問題であるが本邦18例中,初めに癌があり次いで肉腫が起ったという様に時期的な巾を証明したものは1例も認められて居ない。また子宮癌の間質の肉腫化を誘発するものと推定された放射線療法との関係も目下の処はっきりしていない。ここにおいて既述の如き本腫瘍の発生母地が子宮内膜上皮下の間質で上皮性成分も共に此の同じ母組織から起ったと云う。Combination tumor 説が最も妥当なものと考えられ得る。

次の問題は本腫瘍が単なる子宮癌であり、その問題が単に肉腫的な異型性を示しているだけで良性な間質反応に過ぎないのではないかと 云 う 事 である. 事実、子宮癌において、その間質が悪性像を思わせる所見を呈しているのに遭偶する. しかしながらこの場合の間質の異型性は遙かに軽度であり容易に本腫瘍と区別し得る. また Hill 等 4 によれば本腫瘍の確診の為

presence of both epithelial elements and nonepithelial elements in the metastatic areas. On the other hand, in the cases of Masufuchi, Oguchi, and Kawashima areas of rhabdomyosarcoma are seen which definitely bear out the existence of malignant mesodermal mixed tumor of the uterus.

In reference to metastasis of malignant mesodermal mixed tumors, the case reported was interesting in that, as shown in Table 1, carcinomatous and sarcomatous parts metastasized independently. This is not surprising when one considers that the distribution of each element in this tumor is irregular and unequal and that each element may invade the blood or lymphatic vessels separately. Such metastasis is also observed in metastasis of teratome.

The last question is that this tumor might be nothing more than undifferentiated carcinoma and that the areas which appear sarcomatous may really be carcinoma. In fact, cases have often been experienced in which silver impregnation is of no value in distinguishing undifferentiated carcinoma from sarcoma. However, the fact that rhabdosarcoma was noted in 3 cases is sufficient to remove this doubt. Rubin<sup>12</sup> stated that by tissue culture of carcinomatous and sarcomatous cases, carcinomatous parts and sarcomatous parts could be definitely differentiated.

For the above reasons, the authors believe without doubt that malignant mesodermal mixed tumor exits.

#### SUMMARY

An autopsy was performed on a 63-year-old female with a very rare tumor of the uterus (malignant mesodermal mixed). This case and 17 other cases reported in the Japanese literature were reviewed.

The presence of the tumor reported had been confirmed during life, and autopsy revealed that the tumor involved almost all the uterus with extensive metastases to the parametrium, regional lymph nodes, rectum, ovaries, both pubic regions, left lung, scalp, skull, and dura mater. The histological picture was markedly varied with the complicated existence of undifferentiated malignant tumor portions, adenocarcinoma, squamous metaplasia, spindle- and polymorpho-cell sarcoma, and myxomatous and hyalinized stroma.

には転移部に両成分がそれぞれ存在する事が最終の証 明になると強調している。他方増淵,大口,川島の諸 例では横紋筋肉腫の部分が認められ明らかに子宮悪性 中胚葉性混合腫瘍の存在を裏付けている。

この悪性中胚葉性混合腫瘍の転移に関し本例では 表1に見られる様に癌腫部分と肉腫部分とがそれぞれ 独立して転移すると云う興味ある結果を得た.しかし ながら本腫瘍の各成分の分布が不規則,不平等であり 血管,ないしはリンパ管へお互に別個に無関係に侵入 すると考えれば何等奇異な事は無い.そしてこの様な 転移形成は奇型腫の転移に際しても観察せられる.

最後に本腫瘍は実は未分化癌に他ならず、肉腫部分も単に外観だけで実は癌腫ではなかろうかと云う問題である。事実、未分化癌になると鍍銀染色による肉腫との鑑別もその効力を失って了うことはしばしば経験する処である。しかしながら前述の様に3例に横紋筋肉腫が認められた事はこの疑問を水解させるのに充分である。また Rubin<sup>12</sup> によれば癌肉腫例の組織培養によって癌腫部分と肉腫部分とをはっきりと区別し得たと述べている。

以上のことより悪性中胚葉性混合腫瘍の存在は疑いも無い事実であると確信する.

### 総 括

63才の女子に発生した極めて希な子宮悪性中胚葉 性混合腫瘍の一剖検例に接し得たので、本邦発表17例 と共にこれに検討を加えた。

本症例は生存中より本腫瘍の存在が確認されていた。剖検により子宮は殆んど腫瘍で占められ、その他子宮旁組織、領域リンパ節、直腸、卵巣、両恥骨部、左肺、頭皮、頭頂骨、脳硬膜などへの広汎な転移が認められた。その組織像は極めて多彩で未分化な悪性腫瘍部、腺癌、その他扁平上皮化生、紡錘形、或は多形細胞肉腫部、粘液腫様並びに硝子様変化を示す間質の存在等が錯綜して認められた。

Review of the literature showed a fixed relation between age and uterine sites. The age of occurrence in the uterine body was higher than that in the vagina and cervical canal and the frequency in the former was 2.5 times higher than that in the latter.

There is little, if any, relation between this type of tumor and x-ray therapy.

A clinical symptom which is always observed is abnormal genital bleeding, but a definite diagnosis is impossible without biopsy by exploratory excision. Prognosis is very poor and death occurs on the average 1½ years after onset.

Histologically, mesodermal mixed tumors of the uterus can be separated into 2 categories; namely, benign and malignant, and the latter further separated into 2 groups, the so-called carcinosarcoma and more malignant and more undifferentiated tumor.

The nature of this tumor is considered to conform to the combination tumor of Meyer.

文献の検討で年齢と子宮部位との間には一定の関係があり体部の方が膣頸部よりも年齢的に高齢でありかつ頻度も2.5倍と多くなっている.

ここ種の腫瘍と放射線療法との間には余り関係がない.

臨床的に殆んどの必発症状は異常性器出血である が試験切除による組織検査なくしては確診が不可 能である.予後は極めて不良で発症後平均1年半 で死亡する.

その組織像からこれ等の子宮中胚葉性混合腫瘍は 良性と悪性とに2大別せられるものであり,更に 後者をいわゆる"癌肉腫"とそれより悪性度の高 いより未分化な腫瘍に分け得ると考えた.

腫瘍の性格としては Meyer の云う combination tumor に属するものと考えられる.

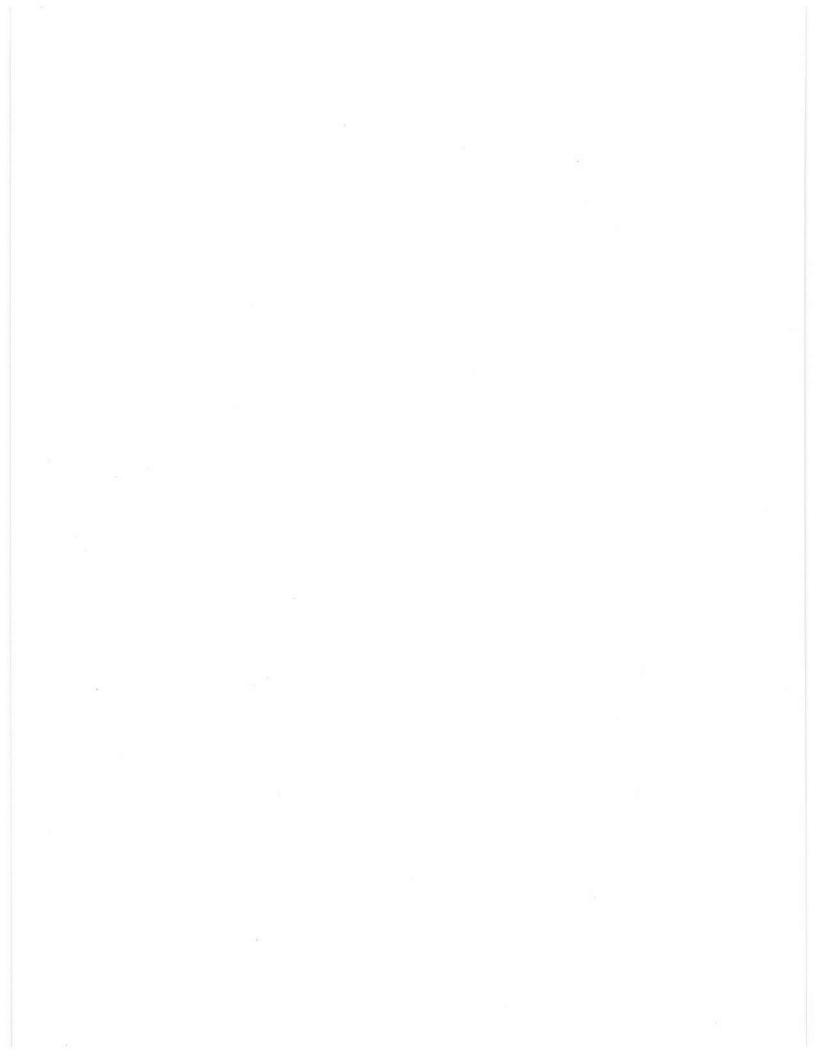


TABLE 2. CASES OF MESODERMAL MIXED TUMOR OF THE UTERUS REPORTED IN JAPAN 表 2 子宮に発生した中胚葉混合腫瘍の本邦発表例

	1	2
AUTHOR 発表者氏名 TITLE 表 題 JOURNAL 掲載雑誌	久留春三:子宮の悪性混成腫瘍。日婦会誌 9(1): 37-72,1914 (Hisatome, S: Malignant mixed tumor of uterus. Nippon Sanka Fujinka Gakkai Zasshi-J Jap Obst Gynec Soc)	滝沢延次郎: 肉腫様増殖を示せる子宮癌の 1例. 東京医事新誌 3051: 2547-8, 1937 (Takizawa E: A case of uterine car- cinoma showing sarcoma-like prolifera- tion. Tokyo Iji Shinshi-Tokyo Med J)
AGE 年 齢 PAST PREGNAN- CIES AND PAST HISTORY	47 5	56 6
経産及び既往 PRESENT CONDITION 現 症	Lower abdominal tumor, Constipation, Edema, Dysuria 下腹部腫瘍,便秘,浮腫,排尿困難	Genital bleeding, Abdominal pain, Leukorrhea 性器出血,腹痛,带下
SITE 部 位	Uterine body 子宫体部	Vaginal portion of cervix, invasion from the cervix to the uterine body 子宮隆部、頸部から体部へと波及
THERAPY 治 療	Removal of tumor 腫瘍剔出	Radiation therapy 放射線療法
OUTCOME 転 帰	Died 12 hours after operation 手術後 12 時間で死亡	Died 1 year and 4 months after onset 発症後1年4か月で死亡
CLINICAL DIAGNOSIS 臨床診断	Uterine myoma 子宫筋腫	Uterine carcinoma 子宮癌
PATHOANATOMI- CAL DIAGNOSIS 病理解剖診断	Malignant mixed tumor of uterus 子宮悪性混成腫瘍	Carcinoma sarcomatosis 癌肉腫症
GROSS FINDINGS 肉 眼 所 見	Infant's head size, milky white, soft 児頭大, 乳白色, 軟	The uterus is of the size of a fist, the uterus cavity is grayish black and gangrenous 子宫は手拳大,子宫腔は灰黑色墩死性
METASTASIS 転 移	Pelvic cavity 骨盤腔	Left uterine tube, Left ovary 左卵管,左卵巢
HISTOLOGICAL FINDINGS 組織像	Adenocarcinoma, Adenomatous myoma, Irregular shaped cell, Sarcoma 腺癌,腺腫性筋腫,不整形細胞,肉腫	Spindle cell carcinoma with cancroid pearl formation, Spindle cell carcinoma, Polymorphone cell sarcomatous tissue 癌真珠を形成する紡錘形細胞癌, 多角形細胞肉腫様組織
COMPOSITION 構 成	Carcinoma+Sarcoma 瘤+肉腫	Carcinoma + Sarcoma 癌+肉腫
CLASSIFICATION 分 類	Malignant mesodermal mixed tumor (So-called carcinosarcoma) 悪性中胚葉性混合腫瘍(所謂癌肉腫)	Malignant mesodermal mixed tumor (So-called carcinosarcoma) 悪性中胚葉性混合腫瘍(所謂癌肉腫)

	3	4
AUTHOR 発表者氏名 TITLE 表 題 JOURNAL 掲載雑誌	村杉忠香、川島武夫、中井貫一:子宮頸部より発生せる葡萄状混合腫の1例、産婦紀要24(8): 895-903, 1941 (Murasugi T, Kawashima T, Nakai K: A case of botryoid mixed tumor of the cervix. Sanpu Kiyo-Obst Gynec Bul)	渡辺健:子宮腟部混合腫瘍の1例. 臨婦産 8(1):53-5, 1954 (Watanabe, T: Acase of mixed tumor of cervix. Rinsho Fujinka Sanka-Clin Gynec Obst)
AGE 年 齢	20	35
PAST PREGNAN- CIES AND PAST HISTORY 経産及び既往	Unmarried 未 婚	3
PRESENT CONDITION 現 症	Genital bleeding, Bloody leukorrhea, Sensation of foreign body in vagina 性器出血,血性带下,座内異物感	Genital bleeding 性器出血
SITE 部 位	Cervix 子宮頸部	Vaginal portion of cervix 子宮隆部
THERAPY 治 療	Total hysterectomy 子宫全剔出	Removal of tumor 腫瘍切除
OUTCOME 転 帰	In good health 1 year after operation 手術後1年健在	In good health 健在
CLINICAL DIAGNOSIS 臨床診断	Cervical botryoid sarcoma 子宮頸部葡萄状肉腫	Cervical myoma 子宫脸部筋腫
PATHOANATOMI- CAL DIAGNOSIS 病理解剖診断		
GROSS FINDINGS 肉 眼 所 見	Botryoid tumor (thumbtip size) pro- trudes from the cervix into the vaginal cavity 子宮頸部より葡萄状腫瘤(拇指頭大)が腟腔 内へ下垂	Goose egg size tumor 釋卵大腫瘍
METASTASIS 転 移	None なし	None to U
HISTOLOGICAL FINDINGS 組織像	Fibrocyte sarcoma, Adenoid structure of cylindrical epithelium, Mucous tissue, Hyaline cartilage 繊維細胞肉腫, 円柱上皮の腺様構造. 粘液組織, 硝子様軟骨	Adenoma, Multilocular cyst, Fibroma, Myoma 腺腫,多房性囊腫,線維腫,筋腫
COMPOSITION 構 成	Adenoid epithelial tumor (malignancy unknown) + Sarcoma + Benign non- epithelial tumor 腺様上皮性腫瘍(悪性度不明)+肉腫+良性 非上皮性腫瘍	Benign epithelial tumor + Benign non- epithelial tumor 良性上皮性腫瘍+良性非上皮性腫瘍
CLASSIFICATION 分 類	5	Benign mesodermal mixed tumor 良性中胚葉性混合腫瘍

5	6
竹岡成、今木重雄ら:子宮に発生した混合腫 (Takeoka S, Imaki S, et al: Two case Jap J Can Res)	
Jap J Can Res)	
第 1 例	第 2 例
Case 1	Case 2
53	39
Nullipara 未産婦	4
Lower abdominal tumor, Genital bleed- ing, Lower abdominal pain 下腹部腫瘤,性器出血,下腹部痛	Genital bleeding 性器出血
Uterine body 子宮体部	Cervix and Vaginal portion 子宮頸部及び膣部
Supravaginal amputation 子宮隆上部切断	Extensive hysterectomy followed by radium irradiation 広範子宮剔除術その後ラジウム照射
Unknown after discharged from hospital 退院後不明	Unknown after discharged from hospital 退院後不明
Uterine myoma 子宮筋腫	
Goose egg size tumor 鵞卵大腫瘍	Hen's egg size tumor 鶏卵大腫瘍
Vaginal cavity	None なし
Polymorphous cell sarcoma, Small round cell sarcoma, Adenoid tissue consisting of many layers of cylindric cells, Hyaline cartilage, Mucous degeneration 多形細胞肉腫,小円形細胞肉腫,多房の円形 状細房の胚様組織,硝子軟骨,粘液変性	Adenocarcinoma, Spindle cell sarcoma, Small round cell sarcoma 腺癌,紡錘形細胞肉腫,小円形細胞肉腫
Epithelial tumor (malignancy unknown) + Non-epithelial tumor (benign and malignant) 上皮性腫瘍(悪性度不明)+非上皮性腫瘍 (良性及び悪性)	Carcinoma + Sarcoma 癌+肉腫
	Malignant mesodermal mixed tumo (so-called carcinosarcoma) 悪性中胚葉性混合腫瘍(所謂癌肉腫)

	7	8
AUTHOR 発表者氏名 TITLE 表 題 JOURNAL 掲載雑誌	武藤友美、今木重雄、太田顕男:子宮混合腫の2例、産婦人科の進歩6(4)、: 248-85、1954 Muto T, Imaki S, Ota A: Two cases of uterine mixed tumor. Sanfujinka no Shimpo -Advan Obst Gynec)第1例 Case 1注:第2例は竹岡の第1例と同一症例と思われるので省略した。 Note: Case 2 is considered to be Case 1 of Takeoka. Therefore it is omitted.	真下昌興, 鹿島決ら: 1才4か月の少女に発生したいわゆるブドー状肉腫の1例. 産婦の世界8(8): 1050-5, 1956 (Mashita M, Kashima H, et al: A case of so-called botryoid sarcoma in a 1 year 4 month old girl. Sanpu no Sekai-World Obst Gynec)
AGE	59	11/3
年齢 PAST PREGNAN- CIES AND PAST HISTORY 経産及び既往	1	
PRESENT CONDITION 現 症	Genital bleeding 性器出血	Genital bleeding 性器出血
SITE 部 位	Uterus (site unknown) 子宮 (部位不明)	Cervix 子宮頸部
THERAPY 治 療	Administration of Nitromin, Deep x-ray irradiation therapy ナイトロミン投与,x 線深部療法	Radium irradiation, Deep x-ray irradiation therapy, Administration of Nitromin ラジウム照射, x線深部療法, ナイトロミン投与
OUTCOME 転 帰	Died 9 months after onset 発症後9か月で死亡	Died 死亡
CLINICAL DIAGNOSIS 臨 床 診 断	Uterine myoma 子宫筋腫	Uterine sarcoma 子宫肉腫
PATHOANATOMI- CAL DIAGNOSIS 病理解剖診断	Uterine mixed tumor 子宫混合腫	So-called botryoid sarcoma of uterus 子宮の所謂ブドー状肉腫
GROSS FINDINGS 肉 眼 所 見	Infant head size tumor 小児頭大腫瘍	Giant tumor 巨大腫瘍
METASTASIS 転 移	Right ovary, Parietal peritoneum, Liver, Skull, 6th Thoracic vertebra, Retroperi- toneal lymph nodes 右卵巣, 壁腹膜, 肝, 頭蓋骨, 第6胸椎, 後腹膜リンパ節	Uterine body, Pelvic cavity, Peritoneum, Lung, Liver, Large intestine, Lymph nodes 子宮体部, 骨盤腔, 腹膜, 肺, 肝, 大腸, リンパ節
HISTOLOGICAL FINDINGS 組織像	Polymorphous cell sarcoma, Spindle cell sarcoma, Squamous cell carcinoma, Adenocarcinoma 多形細胞肉腫,紡錘形細胞肉腫,扁平上皮 癌,腺癌	Sarcoma arranged in a row like alveolar epithelium in some parts 内腫,一部に肺胞上皮様に一列に並ぶ部分を認める
COMPOSITION 構 成	Carcinoma+Sarcoma 癌+肉腫	Epithelial tumor (malignancy unknown) + Sarcoma 上皮性腫瘍 (悪性度不明)+肉腫
CLASSIFICATION 分 類	Malignant mesodermal mixed tumor (so-called carcinosarcoma) 悪性中胚葉性混合腫瘍(所謂癌肉腫)	

9	10
水沼皓, 大場勝利:子宮体部に発生した中 胚葉性混会腫瘍の1例. 日病会誌 45(3): 334, 1956 (Mizunuma H, Oba K: A case of me- sodermal mixed tumor in the uterine body. Nippon Byori Gakkai Kaishi- Trans Soc Path Jap)	吉満秀夫:子宮混合腫瘍の1例. 逓信医学8(9):755-7,1956 (Yoshimitsu H: A case of uterine mixed tumor. Teishin Igaku-J Med Soc Com- munication)
76	46
2	Artificial abortion 5, Premature birth 1, Hydatid mole at 35 yrs of age 人工中絶5回,早産1回,35才のとき胞状奇胎
Lower abdominal tension, Leukorrhea 下腹部緊満感,帯下	Genital bleeding, Lower abdominal pains 性器出血,下腹部箱
Uterine body 子宮体部	Uterine body 子宮体部
Hysterectomy 子宮剔出	Simple total hysterectomy 単純子宮全剔術
Died 4 months after operation 手術後4か月で死亡	
Secondary changes of uterine myoma 子宮筋腫の続発性変化	
Mesodermal mixed tumor of uterus 子宮中胚葉性混合腫瘍	
The uterus is of the size of an infant's head. The uterine cavity is filled with solid tumor. 子宮は小児頭大、子宮腔は充実性腫瘍で満される	Hen's egg sized tumor 鶏卵大腫瘍
None なし	None なし
Striated muscle blastocyte, Undifferentiated mesenchymal tissue, Adenoid structure of cylindrical cell 横紋筋芽細胞,未分化間葉組織, 円柱状細胞の腺様構造	Leiomyoma, Fibroma, Angioma, Adenoma 滑平筋腫,維織腫,血管腫,腺腫
Epithelial tumor (malignancy unknown) + Sarcoma 上皮性腫瘍(悪性度不明)+肉腫	Benign epithelial tumor+Benign non- epithelial tumor 良性上皮性腫瘍+良性非上皮性腫瘍
0	Benign mesodermal mixed tumor 良性中胚葉性混合腫瘍

	11	12
AUTHOR 発表者氏名 TITLE 表 題 JOURNAL 掲載雑誌	増淵一正,鈴木忠雄ら:子宮悪性中胚葉性混合腫瘍について、癌の臨床3(1): 1-8,1957 (Masubuchi, K, Suzuki T, et al: Malignant mesodermal mixed tumor of uterus. Gan no Rinsho-Jap J Cancer Clin)	九嶋勝司,橋本亮三,板垣昭一:子宮体に発生した癌肉腫(悪性中胚業混合腫瘍)の 1 例。産婦の世界10(4):561-6, 1958 Kushima K, Hashimoto R, Itagaki, S: A case of carcinosarcoma (malignant mesodermal mixed tumor) of uterine body. Sanpu no Sekai-World Obst Gynec)
AGE 年齢	59	57
PAST PREGNAN- CIES AND PAST HISTORY 経産及び既往	4	4
PRESENT CONDITION 現 症	Bloody leukorrhea 血性带下	Genital bleeding, Lower abdominal pains, Lumbago 性器出血,下腹部痛,腰痛
SITE 部 位	Uterine body 子宮体部	Uterine body 子宫休部
THERAPY 治 療	Radium irradiation, x-ray therapy followed by supravaginal amputationラジウム照射,x線治療後子宮座上部切断術	Supravaginal amputation 腟上部切断術
OUTCOME 転 帰	Died 10 months after operation 手術後10か月で死亡	Died 5 months after operation 手術後 5 か月で死亡
CLINICAL DIAGNOSIS 臨床診断	Uterine carcinoma 子宮癌	Myomatous uterus 筋腫様子宮
PATHOANATOMI- CAL DIAGNOSIS 病理解剖診断		
GROSS FINDINGS 肉 眼 所 見	Sparrow's egg sized tumor, Polyp formation 雀卵大腫瘍、ポリープ形成	Polypoid tumor 3.8 cm in max. dia. 最長径 3.8 cm のポリーブ状腫瘍
METASTASIS 転移	None なし	Rectal wall 直腸壁
HISTOLOGICAL FINDINGS 組織像	Adeno-carcinoma, Undifferentiated carcinoma, Spindle cell sarcoma, myxomatous tissue, Cartilage tissue, Smooth muscle tissue, Rhabdomyo sarcoma 腺癌,未分化癌,紡錘形肉腫,粘胺腫樣組織 軟骨組織,平滑筋組織,横紋筋肉腫	Adenosquamous cell carcinoma, Cartilage tissue, Leiomyosarcoma, Myxomatous tissue, Round cell sarcoma 腺扁平上皮癌,軟骨組織,滑平筋肉腫, 粘腫様組織,円形細胞肉腫
COMPOSITION 構成	Carcinoma (Adenocarcinoma, undifferentiated carcinoma)+Sarcoma+Benign non-epithelial tumor 癌(腺癌未分化癌)+肉腫+良性非上皮性腫瘍	Carcinoma + Sarcoma 癌+肉腫
CLASSIFICATION 分 類	Malignant mesodermal mixed tumor 悪性中胚葉性混合腫瘍	Malignant mesodermal mixed tumor (so-called carcinosarcoma) 悪性中胚葉性混合腫瘍(所謂癌肉腫)

13	14
玉井定美, 高谷彦一郎, 長内義章:子宮体部癌剔出後腹腔内に発生した葡萄状肉腫様腫瘍の1割検例. 癌 49 (附録): 361-2, 1958 (Tamai S, Takatani H, Nagauchi, Y: An autopsy case of botryoid sarcomalike tumor developing in the abdominal cavity after excision of carcinoma of uterine body. Gann -Jap J Can Res)	江口進,吉村喜久緒ら:子宮における癌肉腫の1 剖検例,産婦の世界 11(12): 1897-901, 1959 (Eguchi S, Yoshimura, K, et al: An autopsy case of carcinosarcoma of uterus. Sanpu no Sekai-World Obst Gynec)
31	48
3 ,	1
Genital bleeding, Lower abdominal distention, Lower abdominal pains 性器出血,下腹部膨隆,下腹部疼痛	Genital bleeding, Pains of lower extremities 性器出血,下肢痛
Uterine body 子宮休部	Uterine body 子宫体部
Hysterectomy 子宮剔出術	Symptomatic therapy 対症療法
Died 7 months after operation 手術後7か月で死亡	Died in 2 yrs. 7 months 2年7か月で死亡
Carcinoma of uterine body 子宮体部癌	Uterine myoma 子宮筋腫
Mesenchymal undifferentiated sarcoma developing in the abdominal cavity after excision of adenocarcinoma of uterine body 子宮体部腺癌剔出後腹腔内に発生 した間葉性未分化肉腫	Carcinosarcoma 癌肉腫
Papillary proliferation of mucosa of uterine body, Botryoid tumor of the size of a fist in abdominal cavity 子宮体部粘膜の乳騰 状増殖,腹腔内の手拳 大のブドー状腫瘤	Tumor larger than an adult's head 超人頭大腫瘍
In abdominal cavity 腹腔内	Regional lymph nodes 領域リンパ節
Adenocarcinoma, Mesenchymal undifferentiated sarcoma 腺癌,間葉性未分化肉腫	Cylindrical epithelial adenocarcinoma, Round cell sarcoma 円柱上皮腺癌,円形細胞肉腫
Carcinoma + Sarcoma 癌+肉腫	Carcinoma+Sarcoma 癌+肉腫
Malignant mesodermal mixed tumor (so-called carcinosarcoma) 惡性中胚葉性混合腫瘍(所謂癌肉腫)	Malignant mesodermal mixed tumor (so-called carcinosarcoma) 悪性中胚葉性混合腫瘍(所謂癌肉腫)

	15	16
AUTHOR 発表者氏名 TITLE 表 題 JOURNAL 掲載雑誌	大口善市:中胚葉性子宮混合腫瘍の1剖検例(東海癌研究会第2回学会抄録). 名医学77(2):530,1959 (Oguchi Z: An autopsy case of mesodermal uterine mixed tumor. Nagoya Igaku-J Nagoya Med Ass)	川島吉良、山田衛,大口善市:子宮体部中胚葉性混合腫瘍の1例。癌の臨床5(5):310,1959  (Kawashima Y, Yamada M, Oguchi Z:A case of mesodermal mixed tumor of uterine body. Gan no Rinsho-Jap J Can Clin)
AGE 年 齢	51	48
PAST PREGNAN- CIES AND PAST HISTORY 経産及び既往	Nullipara x-ray therapy received 21 yrs ago for ovarian sarcoma 未産婦, 21年 前卵巣肉腫にてx線治療を受けた	Nullipara operation for uterine myoma at 47 yrs of age 未産婦、47才で子宮筋腫手術
PRESENT CONDITION 現 症	Genital bleeding 性器出血	Genital bleeding 性器出血
SITE 部 位	Uterine body 子宮体部	Uterine body 子宫体部
THERAPY 治 療	Co <sup>50</sup> irradiation therapy, Male hormonal therapy Co <sup>50</sup> 照射療法, 男性ホルモン療法	Simple total hysterectomy 単純性子宫全剔除術
OUTCOME 転 帰	Died 死亡	Died 8 months after operation 手術後8か月で死亡
CLINICAL DIAGNOSIS 臨 床 診 断	Adenocarcinoma of uterine body 子宮体部腺癌	Cervical myosarcoma 子宫頸部筋肉腫
PATHOANATOMI- CAL DIAGNOSIS 病理解剖診断	Malignant primary uterine tumor 子宮原発悪性腫瘍	
GROSS FINDINGS 肉 眼 所 見		Tumor, smaller than a hen's egg, Polyp formation 小鶏卵大腫瘍,ポリープ形成
METASTASIS 転 移	Peritoneum, Lung, Liver 腹膜, 肺, 肝	None to U
HISTOLOGICAL FINDINGS 組織像	Adenocarcinoma, Round cell sarcoma, Mucus, Cartilage, Rhabdomyo sarcoma 腺癌, 円形細胞肉腫, 粘液, 軟骨, 横紋筋 肉腫	Papillary adenocarcinoma, Rhabdomyosarcoma 乳鵲状腺癌,橫紋筋肉腫
COMPOSITION 構 成	Carcinoma + Sarcoma + Benign non- epithelial tumor 癌+肉腫+良性非上皮性腫瘍	Carcinoma + Sarcoma 癌+肉腫
CLASSIFICATION 分 類	Malignant mesodermal mixed tumor (so-called carcinosarcoma) 悪性中胚葉性混合腫瘍(所謂癌肉腫)	Malignant mesodermal mixed tumor (so-called carcinosarcoma) 思性中胚葉性混合腫瘍(所謂癌肉腫)

17	18
米山正人、大西義久: 女性性器にみられた 所謂癌肉腫の1例. 日病会誌 48(4): 1148- 9, 1959 (Yoneyama M, Onishi Y: A case of so-called carcinosarcoma of female geni- talia. Nippon Byori Gakkai Kaishi- Trans Soc Path Jap)	木村和郎、植田秀嶺、三原三郎:子宮に発生した悪性中胚葉性混合腫瘍の1例. (本報告) (Kimura K, Ueda S, Mihara S: A case of malignant mesodermal mixed tumor of the uterus. Present Report)
48	63
Genital bleeding, Pains of lower extremities 性器出血,下肢疼痛	Genital bleeding, Lumbago, Urodynia 性器出血,腰部痛,排尿痛
Uterine body 子宮体部	Uterine body 子宫体部
	Radium irradiation, X-ray deep irradiation, Anti-carcinoma preparations, Male hormone administration ラジウム照射, レントゲン深部照射, 抗癌剤, 男性ホルモン投与
Died in 2 yrs. 2年間で死亡	Died 8 months after onset 発症後8か月で死亡
Uterine myosarcoma 子宫筋肉腫	Malignant mixed Müllerian tumor of uterus 子宮のミュルレル氏悪性混合腫瘍
So-called carcinosarcoma of uterus 子宮の所謂癌肉腫	Malignant mixed Müllerian tumor ミュルレル氏悪性混合腫瘍
Tumor, 19 cm in max. dia. 最長径 19 cm の腫瘍	Tumor 4 cm in dia, Polyp formation 径4 cm の腫瘍,ポリープ形成
Regional lymph nodes 領域リンパ節	Pelvic cavity, Left ovary, Pubis, Regional lymph nodes, Left lung, Parietal bone, Duramater, Scalp 骨盤腔, 左卵巣, 恥骨, 領域リンパ節, 左肺, 頭頂骨, 脳硬膜, 頭皮
Papillary adenocarcinoma, Carcinoma psammosum (adenocarcinoma), Round cell sarcoma 乳頭状腺癌,砂粒癌(腺癌),円形細胞肉腫	Adenocarcinoma, Undifferentiated carcinoma, Round cell sarcoma, Spindle cell sarcoma, Polymorphous cell sarcoma, Myxomatous tissue 腺癌, 未分化癌, 円形肉腫, 紡錘形肉腫, 多形細胞肉腫, 粘液腫様組織
Carcinoma + Sarcoma 癌+肉腫	Carcinoma (adenocarcinoma, undifferentiated carcinoma)+Sarcoma+Benign non-epithelial tumor 癌(腺癌未分化癌)+肉腫+良性非上皮性腫瘍
Malignant mesodermal mixed tumor (so-called carcinosarcoma) 悪性中胚葉性混合腫瘍(所謂癌肉腫)	Malignant mesodermal mixed tumor 悪性中胚葉性混合腫瘍

#### REFERENCES

#### 参考文献

- Sternberg WH, Clark WH, Smith RC: Malignant mixed Müllerian tumor (Mixed mesodermal tumor of the uterus). Cancer 7: 704-24, 1954
  - (ミュルレル管性悪性混合腫瘍―子宮における中胚葉性混合腫瘍)
- 2. Ahumada JC, Sammartino R, Arrighi LA: Carcinosarcoma uterino. Obstet Gynec Lat Amer 9: 131-46, 1951 cited by Marcella LC, Cromer JK (3) (子宮における癌肉腫)
- 3. Marcella LC, Cromer JK: Mixed mesodermal tumors; A report of 11 cases. Amer J Obstet Gynec 77: 275-85, 1959 (中胚葉性混合腫瘍)
- 4. Hill RP, Miller FN: Combined mesenchymal sarcoma and carcinoma (carcinosarcoma) of the uterus. Cancer 4:803-16, 1951
  (子宮における中胚葉性肉腫および癌腫混合一癌肉腫)
- 5. Willis RA: Mixed mesenchymal tumors of the uterus. In Pathology of Tumors. 2d Ed, London, Butterworth,1953, pp 751-5 (子宮における中胚葉性混合腫瘍 腫瘍の病理)
- 6. Lisa JR, Hartmann H, et al: Carcinosarcoma of the uterus. Ann Surg 127, 738-44, 1948 (子宮における癌肉腫)
- Symmonds RE, Dockerty MB: Sarcoma and sarcoma-like proliferations of the endometrial stroma;
   Carcinosarcoma. Surg Gynec Obstet 100: 322-8, 1955
   (子宮内膜間質の肉腫と肉腫様増殖, 2. 癌肉腫)
- 8. 緒方知三郎, 三田村篤志郎, 緒方富雄: 病理学総論下の巻. 東京, 南山堂書店, 1933, pp 1035-51 (Ogata T, Mitamura T, Ogata T: General Pathology Vol 2, Tokyo, Nanzando)
- 9. 広野 厳:子宮腟部に原発せる混合腫瘍の剖検例. 日本病理会誌, 地方会号 41:140-1, 1952 (Hirono I: An autopsy case of mixed tumor of portio uteri. Nippon Byori Gakkai Kaishi-Trans Soc Path Jap, local meeting issue)
- 10. Meyer R: Beitrag zur Verständigung uber die Namengebung in der Geschwulstlehre. Zbl Allg Path 30: 291-6, 1919-20 (腫瘍病理学における用語理解補遺)
- 11. Billroth CAT: Chirurgische Klinik. Wien, Berlin, 1879, p 258, cited by Warren S, Gates O: Multiple primary malignant tumors-A survey of the literature and a statistical study. Amer J Cancer 16: 1358-414, 1932
- 12. Rubin A: The histogenesis of carcinosarcoma (Mixed mesodermal tumor) of the uterus as revealed by tissue culture studies. Amer J Obstet Gynec 77: 269-74, 1959
  (組織培養による子宮癌肉腫—中胚葉性混合腫瘍—の組織発生学的研究)