

**Supplementary Table S1.** Number of cases from each tissue origin from 2003 to 2014

Tissue origin	Year												Total
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Colon and rectum	0	7	9	20	77	136	28	139	74	24	140	113	767
Urinary bladder	0	0	2	12	20	14	9	66	38	10	54	46	271
Stomach	0	1	6	9	17	12	3	26	17	9	16	16	132
Breast	1	5	8	15	13	6	2	7	8	5	8	24	102
Ovary	0	7	7	12	15	14	3	7	3	6	7	16	97
Thyroid	0	0	4	4	9	13	5	10	10	6	14	12	87
Uterus	1	5	5	9	8	9	5	14	4	4	8	12	84
Bone and ST	0	2	1	3	6	7	0	11	10	9	12	8	69
CNS	0	2	2	1	3	5	1	10	1	5	5	7	42
Head and neck	0	5	2	1	2	1	2	7	3	1	8	4	36
Skin	0	0	1	3	2	7	1	6	3	3	6	4	36
Mediastinum	0	0	0	2	0	3	1	6	4	4	2	9	31
Small intestine	0	0	0	2	4	4	2	3	2	1	3	5	26
Pancreas	1	1	1	2	0	2	1	2	2	4	5	0	21
Etc.	0	4	3	6	6	11	3	19	10	14	16	11	103
Total	3	39	51	101	182	244	66	333	189	105	304	287	1,904 <sup>a</sup>

ST, soft tissue; CNS, central nervous system.

<sup>a</sup>36 of the 1,950 entire consulted cases without information about tissue origin were excluded from this table.

**Supplementary Table S2.** Diagnoses of the consulted cases from breast

Diagnosis	No. of cases
Benign lesions	
Columnar cell change	3
Usual ductal hyperplasia	5
Fibrocystic change	3
Atypical ductal lesion	
Atypical ductal hyperplasia	19
Atypical papilloma	2
Flat epithelial atypia	2
Ductal carcinoma <i>in situ</i>	27
Microinvasive carcinoma	1
Invasive ductal carcinoma	7
Phyllodes tumor	
Benign	10
Borderline	19
Malignant	1
Total	100

**Supplementary Table S3.** Diagnoses of the consulted cases from ovary

Diagnosis	No. of cases
Epithelial neoplasm	
Brenner tumor	1
Serous borderline tumor	16
Mucinous carcinoma	2
Mucinous borderline tumor (including carcinoma <i>in situ</i> )	24
Mucinous borderline tumor with microinvasion	2
Mucinous cystadenoma	1
Seromucinous borderline tumor	1
Clear cell carcinoma	1
Clear cell borderline tumor	1
Endometrioid carcinoma	1
Sex cord stromal tumor	
Fibrothecoma	1
Fibroma	1
Granulosa cell tumor	33
Sertoli-Leydig cell tumor	3
Steroid cell tumor	1
Germ cell tumor	
Mature teratoma	1
Somatic type tumor arising from mature teratoma	
Carcinoid tumor	2
Papillary carcinoma	1
Squamous cell carcinoma	1
Xanthogranulomatous inflammation	1
Total	95

**Supplementary Table S4.** Diagnoses of the consulted cases from thyroid

Diagnosis	No. of cases
Adenomatous goiter	4
Hyalizing trabecular tumor	2
Follicular adenoma	5
Hurthle cell adenoma	1
Follicular carcinoma	1
Papillary carcinoma	21
Well differentiated tumor with UB	2
Total	36 <sup>a</sup>

UB, uncertain behavior.

<sup>a</sup>Forty cases for the review of fine-needle aspiration slides were excluded.

**Supplementary Table S5.** Diagnoses of the consulted cases from uterus

Diagnosis	No. of cases
Cervix	
Squamous cell lesions	
CIN <sup>a</sup>	7
Squamous cell carcinoma <i>in situ</i>	14
Microinvasive squamous cell carcinoma	12
Invasive squamous cell carcinoma	2
Glandular lesions	
Endocervical glandular hyperplasia	1
Adenocarcinoma <i>in situ</i>	1
Microinvasive adenocarcinoma	4
Invasive adenocarcinoma	2
Corpus	
Endometrial lesions	
Endometrial hyperplasia with atypia	4
Endometrial adenocarcinoma	4
Adenofibroma with atypia	1
Endometrial stromal nodule	1
Endometrial stromal sarcoma	1
Smooth muscle neoplasm	
Cellular leiomyoma	2
Epithelioid leiomyoma	1
Mitotically active leiomyoma	2
STUMP	9
Uterine tumor resembling ovarian sex cord tumor	1
Trophoblastic lesions	
H-mole, invasive	
Placental site trophoblastic tumor	4
Epithelioid trophoblastic tumor	1
Total	76 <sup>b</sup>

CIN, cervical intraepithelial neoplasia; STUMP, smooth muscle tumor of uncertain malignant potential; H-mole, hydatidiform-mole.

<sup>a</sup>CIN I was regarded as benign lesion and CIN category was consisted of 1 CIN I and 6 CIN III; <sup>b</sup>Two cases for the review of cervicovaginal cytology slides were excluded.

**Supplementary Table S6.** Diagnoses of the consulted cases from bone and soft tissue

Diagnosis	No. of cases
Bone	
Chondroid lesion	
Osteochondroma	2
Enchondroma	4
Epithelioid angiosarcoma	1
Langerhans cell histiocytosis	1
PEComa	1
Ewing sarcoma/PNET	1
Giant cell tumor (osteoclastoma)	1
Simple bone cyst	1
Fibrous dysplasia	1
Bone infarct	1
Metastatic tumor	2
Soft tissue	
Atypical lipomatous tumor/WD liposarcoma	5
Fibromatosis	5
Extrapleural solitary fibrous tumor	3
Giant cell tumor of soft tissue	1
Myofibroma	1
STUMP	2
Rhabdomyosarcoma, spindle cell type	1
Kaposiform hemangioendothelioma	1
Epithelioid hemangioendothelioma	2
Schwannoma	5
Granular cell tumor	1
Malignant granular cell tumor	1
MPNST	1
Deep ("aggressive") angiomyxoma	2
Alveolar soft part sarcoma	1
Synovial sarcoma	1
Angiomatoid fibromyxoid tumor	1
Tenosynovial giant cell tumor	
Localized type	6
Diffuse type	3
Plexiform fibrohistiocytic tumor	1
Benign reactive change	3
Total	63

PNET, primitive neuroectodermal tumor; WD, well differentiated; STUMP, smooth muscle tumor with uncertain malignant potential; MPNST, malignant peripheral nerve sheath tumor.

**Supplementary Table S7.** Diagnoses of the consulted cases from central nervous system

Diagnosis	No. of cases
Brain	
Glial tumor	
Pilocytic astrocytoma	7
Diffuse astrocytoma	3
Meningioma	
Meningothelial	3
Transitional	1
Atypical	2
Chordoid	1
Rhabdoid	1
Craniopharyngioma	1
Choroid plexus papilloma	1
Pineal gland malignant tumor	1
Hemangioblastoma	1
Dermoid cyst	1
Immature teratoma	1
Germinoma	1
Malignant lymphoma	2
Metastatic carcinoma	1
Spinal cord	
Schwannoma	5
Neurofibroma	1
Diffuse astrocytoma	1
Atypical meningioma	1
Mature teratoma	1
Arachnoid cyst	1
Hematoma	1
Total	39

**Supplementary Table S8.** Diagnoses of the consulted cases from head and neck

Diagnosis	No. of cases
Ocular lesions	
Extranodal marginal zone lymphoma	2
Invasive squamous cell carcinoma	2
Chronic dacryoadenitis	2
Nasal/paranasal cavity	
Squamous cell carcinoma	2
Spindle cell sarcoma	1
Diffuse large B cell lymphoma	1
Oral cavity	
Invasive squamous cell carcinoma	2
Squamous cell carcinoma <i>in situ</i>	1
Squamous papilloma	1
Cavernous hemangioma	1
Tuberculosis of palatine tonsil	1
Salivary gland	
Myoepithelioma	2
Carcinoma ex pleomorphic adenoma	3
Acinic cell carcinoma	1
Basal cell adenocarcinoma	1
Ear	
Neuroendocrine tumor	1
Squamous cell carcinoma	1
Adenoid cystic carcinoma	1
Larynx	
High grade dysplasia	2
Squamous cell carcinoma <i>in situ</i>	4
Invasive squamous cell carcinoma	3
Pharynx	
Mucoepidermoid carcinoma	1
Total	36

**Supplementary Table S9.** Diagnoses of the consulted cases from skin

Diagnosis	No. of cases
Keratinocytic lesions	
Keratoacanthoma	1
Basal cell carcinoma	4
Squamous cell carcinoma	2
Melanocytic lesions	
Atypical Spitz nevus	1
Dysplastic nevus	1
Melanoma <i>in situ</i>	1
Malignant melanoma	1
Appendigeal tumor	
Extramammary paget disease	1
Sebaceous carcinoma	1
Pleomorphic adenoma (mixed tumor)	1
Hematolymphoid tumors	
Mycosis fungoides	3
Lymphomatoid papulosis	1
Soft tissue tumors	
Dermatofibroma (fibrous histiocytoma)	7
DFSP	5
Tufted angioma	1
MPNST arising from neurofibromatosis	1
Granular cell tumor	1
Abcess	1
Epidermal cyst	1
Seborrheic keratosis	1
Total	36

DFSP, dermatofibrosarcoma protuberance; MPNST, malignant peripheral nerve sheath tumor.

**Supplementary Table S10.** Diagnoses of the consulted cases from mediastinum

Diagnosis	No. of cases
Thymoma	
Type AB	8
Type B1	7
Type B2	7
Type B3	3
Type unknown	1
Schwannoma	2
Mature teratoma	1
Metastatic giant cell tumor of bone	1
Total	30

**Supplementary Table S11.** Diagnoses of the consulted cases from small intestine

Diagnosis	No. of cases
Gastrointestinal stromal tumor	
Very low risk	1
Low risk	10
Intermediate risk	2
Neuroendocrine tumor	9
Tubular adenoma with high grade dysplasia	1
Hamartoma	1
Total	24

**Supplementary Table S12.** Diagnoses of the consulted cases from pancreas

Diagnosis	No. of cases
IPMN	
Low-grade dysplasia	3
Intermediate-grade dysplasia	5
High-grade dysplasia	1
Mucinous cystic neoplasm	
Low-grade dysplasia	1
Intermediate-grade dysplasia	1
High-grade dysplasia	1
Neuroendocrine tumor	5
Solid pseudopapillary neoplasm	4
Total	21

IPMN, intraductal papillary mucinous neoplasm.

**Supplementary Table S13.** Diagnoses of the consulted cases from lung and pleura

Diagnosis	No. of cases
Lung	
Adnocarcinoma <i>in situ</i> <sup>a</sup>	7
Invasive adenocarcinoma	2
Squamous cell carcinoma <i>in situ</i>	1
Extramammary plasmacytoma	1
Langerhans cell histiocytosis	1
Sclerosing pneumocytoma	1
Pulmonary hamartoma	1
Bronchiectasis	1
Pleura	
Well differentiated papillary mesothelioma	1
Solitary fibrous tumor	2
Total	18

<sup>a</sup>Five of seven cases were diagnosed as non-mucinous bronchioloalveolar carcinoma before 2014.

**Supplementary Table S14.** Diagnoses of the consulted cases from kidney

Diagnosis	No. of cases
Cystic, partially differentiated nephroblastoma	2
Chromophobe renal cell carcinoma	1
Papillary renal cell carcinoma	1
Non-invasive papillary urothelial carcinoma, LG	1
Malignant hemangioendothelioma	1
Epithelioid angiomylipoma	1
Mixed epithelial and stromal tumor	1
Oncocytoma	1
Chronic pyelonephritis	1
Total	10

LG, low grade.

**Supplementary Table S15.** Diagnoses of the consulted cases from appendix

Diagnosis	No. of cases
Neuroendocrine tumor	7
Low grade appendiceal mucinous neoplasm	3
Total	10

**Supplementary Table S16.** Diagnoses of the consulted cases from gallbladder

Diagnosis	No. of cases
Adenoma	3
Biliary intraepithelial neoplasia, grade 3	1
Adenocarcinoma in situ arising in adenoma	2
Cholecystitis	3
Adenomyomatous hyperplasia	1
Total	10

**Supplementary Table S17.** Diagnoses of the consulted cases from lymph node

Diagnosis	No. of cases
Malignant lymphoma	
Nodal marginal zone lymphoma	3
Classic Hodgkin lymphoma	2
Langerhans cell histiocytosis	2
Kimura disease	1
Dermatopathy lymphadenopathy	1
Total	9

**Supplementary Table S18.** Diagnoses of the consulted cases from adrenal gland

Diagnosis	No. of cases
Adrenal cortical adenoma	1
Oncocytic adrenal cortical tumor	2
Adrenal cortical carcinoma	1
Pheochromocytoma	2
Composite pheochromocytoma	1
Adrenal cyst	1
Total	8

**Supplementary Table S19.** Diagnoses of the consulted cases from liver

Diagnosis	No. of cases
Dysplatic nodule, HG	1
Hepatocellular carcinoma	1
Biliary intraepithelial neoplasia, grade 1	1
IPN with LG dysplasia	1
IPN with an associated invasive carcinoma	1
Epithelioid hemangioendothelioma	1
Total	6

HG, high grade; IPN, intraductal papillary neoplasm; LG, low grade.

**Supplementary Table S20.** Diagnoses of the consulted cases from testis

Diagnosis	No. of cases
Mature teratoma	1
Leydig cell tumor	2
Mucinous borderline tumor	1
Leiomyoma	1
STUMP	1
Total	6

STUMP, smooth muscle neoplasm of uncertain malignant potential.

**Supplementary Table S21.** Diagnoses of the consulted cases from other tissue origins

Diagnosis	No. of cases
Pituitary gland	
Pituitary adenoma	5
Ureter	
Non-invasive papillary urothelial carcinoma, LG	3
Invasive urothelial carcinoma	1
Bone marrow	
Myelodysplastic syndrome	2
Hairy cell leukemia	1
Hemophagocytic syndrome	1
Esophagus	
High grade dysplasia	1
Squamous cell carcinoma <i>in situ</i>	1
Leiomyoma	1
Peritoneum	
Pseudomyxoma peritonei	2
Malignant mesothelioma	1
Anus	
Squamous cell carcinoma <i>in situ</i>	1
Extrahepatic bile duct	
Adenocarcinoma	1
Vagina	
Reactive fibrotic tissue with necrosis	1
Prostate	
Prostatic glands and stroma with no tumor	1
Heart	
Myxoma	1
Parathyroid	
Parathyroid carcinoma	1
Total	25

LG, low grade.