

Table S1 Morphological aspects evaluated in this study

Gross findings
Gross measurements
Architecture
Unilocular configuration
Multilocular configuration
Cyst Fluid characteristics
Hemorrhagic, tan, or semi-solid
Clear, serous-appearing
Nature of excision
Intact cyst
Disrupted cyst
Presence of grossly identifiable adjacent thymus
Microscopic findings
Epithelial lining
Denudation
Histologic type
a. Flat
b. Cuboidal
c. Pseudostratified
d. Squamous
e. Mixed patterns
Keratinization
Presence of ciliated cells
Histiocytic replacement/lining
Pseudoepitheliomatous hyperplasia
Wall characteristics
Acute inflammatory infiltrate
Cholesterol clefts
Chronic inflammatory infiltrate
Dense lymphocytic rim
Calcifications
Germinal center formation
Giant cell formation
Granulation tissue
Granuloma formation
Hemosiderin deposition
Hyalinosis
Necrosis
Osseous metaplasia
Hassall's corpuscles in wall
Collagenous fibrosis
Stromal hemorrhage
Eosinophilic infiltrate
Characteristics of surrounding thymus
Fat necrosis
Involution
Lymphoid follicular hyperplasia
True thymic hyperplasia
Microcystic Hassall's corpuscles
Cyst cavity contents
Cholesterol clefts
Fibrin deposition
Fresh hemorrhage
Hemosiderin
Necrotic material
Pigmented macrophages
Proteinaceous material

Table S2 Imaging parameters evaluated in this study

General features on CT and MRI

Size in three dimensions (mm)

TRV/AP/CC

Morphology (axial plane)

Round

Oval

Lobulated (non-saccular)

Saccular (non-lobulated)

Lobulated/saccular

Nature of cyst - locularity

Unilocular configuration

Multilocular configuration

Indeterminate

Presence of concurrent thymic hyperplasia

Maximum wall thickness (mm)

Wall enhancement

CT features

Attenuation of cyst fluid on CT in Hounsfield units (HU)

Wall morphology on CT

Smooth

Irregular

Nodular

Presence of wall calcification and pattern

Punctate

Circumferential

MRI features

T1-weighted MRI signal of cyst fluid

Hypointense to muscle

Isointense to muscle

Mixed hyper- and isointense to muscle

T2-weighted MRI signal of cyst fluid

Isointense to muscle

Hyperintense to muscle

Mixed hyper- and hypointense

Wall character on MRI

Smooth

Irregular

Nodular

Wall signal on MRI

T1/T2-hypointense

T1-isointense, T2-hyperintense

CT, computed tomography; MRI, magnetic resonance imaging; TRV, transverse; AP, anteroposterior; CC, craniocaudal.

Table S3 Resected Mediastinal lesions in a 20-year period

Mediastinal cysts	Number of cases (%)
Cystic lesions	
Congenital	
Bronchogenic	1 (1)
Branchial cleft	1 (1)
Celomic (pericardial, mesothelial)	1 (1)
Epidermal inclusion	1 (1)
Thymic	33 (39)
Tracheoesophageal	1 (1)
Acquired	
Lymphangioma	2 (2)
Unclassifiable	1 (1)
Cyst-like lesions	
Pseudocyst	1 (1)
Cystic changes in	
Germinoma	2 (2)
Hodgkin lymphoma	5 (6)
Mature teratoma	6 (7)
Parathyroid adenoma	1 (1)
Thymic hyperplasia	1 (1)
Thymic carcinoma	6 (7)
Thymoma	16 (19)
Other malignant lesions	6 (7)

Table S4 Thymic cyst findings on preoperative CT and MRI

Parameter	Number of cases (%)	Mean (\pm standard deviation)	Median (range)
Size in three dimensions (mm)			
On CT [†]			
CC		43 (\pm 17)	39 (25-75)
TRV		30 (\pm 15)	25 (16-68)
AP		30 (\pm 13)	28 (15-62)
On MRI [‡]			
CC		36 (\pm 17)	34 (16-58)
TRV		30 (\pm 8)	33 (18-36)
AP		30 (\pm 13)	39 (17-52)
Morphology (axial plane)			
On CT [†]			
Saccular, non-lobulated	10 (59)		
Saccular, lobulated	5 (29)		
Round	2 (12)		
On MRI [‡]			
Saccular, non-lobulated	1 (25)		
Saccular, lobulated	1 (25)		
Round	1 (25)		
Lobulated (non-saccular)	1 (25)		
Locularity			
On CT [†]			
Unilocular	0		
Multilocular	3 (18)		
Indeterminate	14 (82)		
On MRI [‡]			
Unilocular	1 (25)		
Multilocular	3 (75)		
Indeterminate	0		
Maximum wall thickness (mm)			
On CT (mm) [†]		3	3 (1-5)
On MRI (mm) [‡]		3	3 (1-5)
Wall enhancement			
On CT [†]	NA ^α		
On MRI [‡]	4 (100)		
CT features [†]			
Attenuation of cyst fluid on CT in Hounsfield units (HU)			
Non-contrast CT	5	26	25 (20-35)
Contrast-enhanced CT ^β	13	22	25 (12-43)
Attenuation of cyst fluid on CT \geq 20 HU [†]	11 (65)		
Wall morphology on CT			
Smooth	3 (60)		
Irregular	1 (33)		
Nodular	1 (33)		
Wall calcification			
Punctate	4 (67)		
Circumferential	2 (33)		
MRI features [‡]			
T1-weighted MRI signal of cyst fluid			
Hypointense to muscle	1 (25)		
Isointense to muscle	2 (50)		
Mixed hyper- and isointense to muscle	1 (25)		
T2-weighted MRI signal of cyst fluid			
Isointense to muscle	0		
Hyperintense to muscle	3 (75)		
Mixed hyper- and hypointense	1 (25)		
Wall character on MRI			
Smooth	2 (50)		
Irregular	2 (50)		
Nodular	0		
Wall signal on MRI			
T1/T2-hypointense	1 (25)		
T1-isointense, T2-hyperintense	3 (75)		

Data are n (%), mean (\pm standard deviation), or median (range). [†]n=4; [‡]n=17. ^α Wall enhancement was not discernible by CT. ^β 17 of the 18 thymic cysts were imaged by CT; 12/17 by CT with iodinated intravenous contrast, 4/17 by CT without intravenous contrast, and 1/17 by CT without and with iodinated intravenous contrast. CT, computed tomography; MRI, magnetic resonance imaging; TRV, transverse; AP, anteroposterior; CC, craniocaudal.

Box S1 CT and MRI scanner hardware and software used in this study

Medical imaging technique	Hardware/Software
CT	GE MEDICAL SYSTEMS LightSpeed ULTRA GE MEDICAL SYSTEMS LightSpeed VCT GE MEDICAL SYSTEMS LightSpeed PRO 16 GE MEDICAL SYSTEMS LightSpeed Plus GE MEDICAL SYSTEMS Discovery CT750 HD SIEMENS Somatom Sensation 4 SIEMENS Somatom Sensation 40 SIEMENS Sensation Cardiac 64 SIEMENS Somatom Definition Edge PHILIPS Brilliance 64 PHILIPS IQon - Spectral CT
MRI (1.5 Tesla)	GE MEDICAL SYSTEMS SIGNA EXCITE GE MEDICAL SYSTEMS SIGNA HDx GE MEDICAL SYSTEMS Signa HDxt SIEMENS Aera

CT, computed tomography; MRI, magnetic resonance imaging.