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Data Article

Appendiceal tumor incidence and an in-depth look at appendiceal neuroendocrine neoplasm in a cohort of 8,162 appendectomies: Full dataset

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ABSTRACT

Data describing appendiceal tumor incidence and epidemiology is limited. We collated data from appendectomy pathology reports between 2005 and 2018 in our institution and examined patient epidemiological and appendectomy pathological features [1]. Overall, 8,328 appendectomies were performed at our institution over the pre-specified time period and 8,162 patients had sufficient epidemiological data to be included in the analysis. A total of 153 patients (1.9%) were diagnosed with appendiceal tumors, of which 57 (37.3%) were Appendiceal Neuroendocrine Neoplasm (ANEN), 35 (22.9%) were mucinous cystadenoma and 34 (22.2%) ovarian cancer metastases. We further examined the ANEN cases in order to characterize initial patient and tumor characteristics, to evaluate the performance of further investigations

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and interventions, and ultimately to study the behavior of these tumors over time.

Specifications Table

Subject	Medicine and Dentistry, Surgery
Specific subject area	Pathology of appendectomy specimens
Type of data	Table Figure Excel file
How data were acquired	Data was extracted from computerized medical files of the Meir Medical Center Network. Cases were individually reviewed by the authors and pathology reports analysed. Data was then built as a database in Microsoft Excel.
Data format	Raw Analyzed Filtered
Parameters for data collection	Files of patients who underwent appendectomy in our center between 2005 and 2018 were reviewed. Overall, 8328 appendectomies were performed; ultimately, 8162 patients had available epidemiological and pathological data to be included in the analysis. None of the 166 excluded cases had an appendiceal tumor.
Description of data collection	A list of all patients who underwent appendectomy between 2005 and 2018 was procured from the institution's Information Technology department. Epidemiological data was analyzed including age at appendectomy, year, sex and ethnicity (Jewish, Arab or other). All pathological reports were reviewed, and those with ANEN underwent more in-depth review for patient clinical and tumor pathological characteristics, further surgeries and treatments and laboratory and imaging surveillance data.
Data source location	Meir Medical Center, Kfar Saba, Israel
Data accessibility	With the article
Related research article	Orit Twito, Haim Paran, Shmuel Avital, Vladimir Kravtsov, Rachel Chava Rosenblum, Pnina Rotman-Pikielny, Noa Klein Temporal Trends in Incidence, Evaluation and Management of Neuroendocrine Neoplasms of the Appendix: 14 Years' Experience American Journal of Surgery. In Press.

Value of the Data

- These data include a large number of appendectomy pathological reports along with patient demographic data, as well as comprehensive clinical, laboratory and pathological characteristics of all cases defined as ANEN.
- These data may be of interest to the surgical community, to whom it offers insight into the likelihood of finding a tumor at appendectomy, and the distribution of tumor subtypes according to patient age; and to the neuroendocrinology community for whom it offers an understanding of ANEN clinical and pathological characteristics and prognosis.
- These data could potentially be used towards the development of new guidelines for the approach to ANEN surveillance and treatment.

1. Data Description

The raw data is composed of 2 datasets. The first includes all appendectomy specimens within the specified time period and describes patient age, gender and ethnicity, as well as appendectomy pathological diagnosis, tumor presence and tumor pathology. The second includes all ANEN patients from within the first dataset, and adds clinical presentation, histological features including size, subtype, invasion, Ki67% and immunohistochemistry stains, surveillance methods including clinic follow up, laboratory tests and imaging modalities used, and further treatments including hemicolectomy and somatostatin analogues.

Table 1
Appendiceal tumor subtype rate within a cohort of 8162 appendectomies, 2005–2018.

Tumor type	Number (%)
Neuroendocrine tumor	57/153 (37.3%)
Mucinous cystadenoma	35/153 (22.9%)
Ovarian metastasis	34/153 (22.2%)
Adenoma	13/153 (8.5%)
Adenocarcinoma	9/153 (5.9%)
GIST	1/153 (0.7%)
Neuroma	1/153 (0.7%)
Inflammatory pseudotumor	1/153 (0.7%)
Breast cancer metastases in mesoappendix	1/153 (0.7%)
Primary peritoneal carcinoma	1/153 (0.7%)

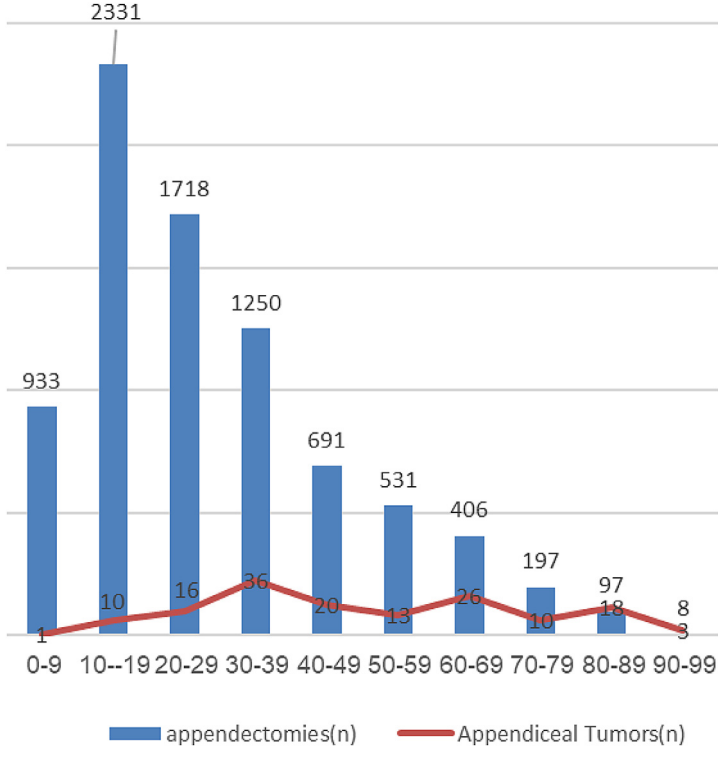

Fig. 1. Incidence of appendectomy (blue column) and appendiceal tumor (red line) according to age (in decades) within our cohort.

Table 2
Number of Appendectomies and Appendiceal tumor incidence according to age group in a cohort of 8162 appendectomies, 2005–2018.

Age group (years)	Appendectomies (n)	Appendiceal Tumors (n)	ANEN (n)	Adenoma (n)	Mucinous cystadenoma (n)	Adeno-carcinoma (n)	Ovarian metastases (n)	other
0–9	933	3	2	1				
10–19	2331	18	17		1			
20–29	1718	10	8		2			
30–39	1250	26	14	3	5	2		2 1: inflamm-atory pseudo-tumor 1: GIST
40–49	691	13	7		4		2	
50–59	531	20	4	1	4		10	1 (breast ca mets)
60–69	406	36	3	5	7	6	14	1 (primary peritoneal carcinoma)
70–79	197	16	1	2	6		6	1 (neuroma)
80–89	97	10	1	1	6		2	
90–99	8	1				1		

Table 1 describes appendiceal tumor subtypes and their prevalence within the cohort, Table 2 and Fig. 1 describe number of appendectomy, and incidence of appendiceal tumor and ANEN according to age.

2. Experimental Design, Materials and Methods

Initial database search was performed using ICD-9 codes for appendectomy, 47.0 and 47.1. Individual patient files were searched by the authors for appendix histological descriptions as well as relevant epidemiological data including age at appendectomy, year, sex and ethnicity. These data were summarized in an excel datasheet. Patient identification details were substituted for identification codes to protect patient confidentiality. A separate file exists within the institution with patient codes and identities. Files of patients diagnosed with ANEN were further reviewed for patient clinical and tumor pathological characteristics, clinical, laboratory and imaging surveillance data, further treatments and mortality data. A second coded datasheet summarized this information.

Ethics Statement

The study protocol was approved by the Meir Medical Center Institutional Ethics Committee. In accordance with Helsinki regulations for clinical studies based on chart review, informed consent was waived.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships which have, or could be perceived to have, influenced the work reported in this article.

Supplementary Materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.dib.2020.106456.

Reference

[1] Orit Twito, Haim Paran, Shmuel Avital, Vladimir Kravtsov, Rachel Chava Rosenblum, Pnina Rotman-Pikielny, Noa Klein. Temporal Trends in Incidence, Evaluation and Management of Neuroendocrine Neoplasms of the Appendix: 14 Years' Experience. Am. J. Surg. In Press. 2020.