

**At a glance: 25 fibrous tumors of the pancreas***Em resumo: 25 tumores fibrosos do pâncreas*Vitorino Modesto Santos<sup>1</sup>, Lister Arruda Modesto santos<sup>2</sup>**Abstract**

Solitary fibrous tumor of the pancreas is a rare condition, more often benign. Mesenchymal fibroblastic-like spindle cells, anarchical fascicular pattern, hyalinized fibro collagen stroma, and hemangiopericytoma-like vessels are the usual features. Suggestive histopathology data must be confirmed by expressions of CD34, Bcl-2, vimentin, CD99,  $\beta$ -catenin, CD117, CD10, or CD56 in immunohistochemistry studies. Herein, the major characteristics of 25 published cases of these tumors are reviewed. The main purpose is to enhance the suspicion index about this scarcely described entity.

**Keywords:** Fibrous tumor; pancreas; solitary tumor

**Resumo**

Tumor fibroso solitário do pâncreas é uma condição rara, mais frequentemente benigna. As células mesenquimais fusiformes semelhantes a fibroblastos, o padrão fascicular anárquico, o estroma colágeno fibroso hialinizado e vasos do tipo hemangiopericitoma são características usuais. Os dados histopatológicos sugestivos devem

ser confirmados por expressões de CD34, Bcl-2, vimentina, CD99,  $\beta$ -catenina, CD117, CD10 ou CD56 em estudos de imuno-histoquímica. As principais características de 25 casos publicados desses tumores são aqui revistos. O objetivo principal é aprimorar o índice de suspeição sobre esta entidade pouco descrita.

**Palavras-chave:** Tumor fibroso; pâncreas; tumor solitário

**Introdução**

Solitary fibrous tumor of the pancreas (SFTP) is an extremely rare condition that may be malignant, but has been more often described with benign characteristics<sup>1-10</sup>. Mesenchymal fibroblastic-like spindle cells with anarchical fascicular pattern, hyalinized fibro collagen stroma, and hemangiopericytoma-like vessels are common features<sup>1-10</sup>. The suggestive histopathology data must be confirmed by expressions of CD34, Bcl-2, vimentin, CD99,  $\beta$ -catenin, CD117, CD10, or CD56 in immunohistochemistry study; and the atypical mitosis more than 4 per 10 high-power fields are criteria of malignancy<sup>1-10</sup>

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## Fibrous tumors of the pâncreas

Five years ago, Brazilian authors reported a case study about SFTP and included a comparative review of literature data from the nine cases previously described<sup>1</sup>. After confirming that new cases of SFTP have been very sparsely published since that time, the aim is to address comments of new data to enhance the interest about this tumor. Herein, 25 cases

of SFTPs were reviewed with base on Google scholar and Medline databases, including articles from 1999 (1), 2006 (1), 2007 (2), 2008 (3), 2009 (2), 2010 (1), 2012 (3), 2013 (1), 2014 (3), 2015 (3), 2016 (2), to 2017 (3) as shown in Table 1. Comparative data of 25 patients with confirmed solitary fibrous tumors of the pancreas

First authors (year)	F/M age	Symptoms	Site	Size cm	Immunostaining expression
Lüttges J (1999)	F/ 50 yo	Absent	Body	5.5	CD34, CD99, bcl-2, vi
Chatti K (2006)	M/ 41 yo	Pain	Body	13	CD34, CD99, bcl-2, vi
Gardini A (2007)	F/ 62 yo	Pain	Head	2.5	CD34, CD99, bcl-2, vi
Miyamoto H (2007)	F/ 41 yo	Pain	Body	2	CD34, bcl-2
Amiot A (2008)	F/ 51 yo	Pain	Tail	6	$\beta$ -catenin ( $\beta$ c), CD117
Kwon HJ (2008)	F/ 54 yo	Absent	Body	7.6	CD34, CD99, vim
Srinivasan VD (2008)	F/ 78 yo	Back pain	Body	4.5	CD34, CD99, bcl-2, vi
Chetty R (2009)	F/ 67 yo	Absent	Head	2.6	CD34, CD99, bcl-2
Ishiwatari H (2009)	F/ 58 yo	Absent	Head	3	CD34, bcl-2
Sugawara Y (2010)	F/ 55 yo	Absent	Head	7	CD34
Santos LAM (2012)	F/ 40 yo	Absent	Body	3	CD34, $\beta$ c
Tasdemir A (2012)	F/ 24 yo	Pain	Body	18.5	CD34, vi, $\beta$ c
van der Vorst JR (2012)	F/ 67 yo	Pain	Head	2.8	CD34, CD99, bcl-2
Chen JW (2013)	F/ 49 yo	Pain	Head	13	CD34, CD68, bcl-2, vi
Hwang JD (2014)	F 53 yo	Absent	Head	5.2	CD34, CD99, CD10, bcl-2
Kim JY (2014)	M/ 53 yo	Absent	Body	7.5	CD34, CD99, bcl-2, vi
Kim JY (2014)	F/ 52 yo	Absent	Tail	2†	CD34, bcl-2
Baxter AR (2015)	F/ 58 yo	Pain	Head	3.5	CD34, CD99, bcl-2, $\beta$ c
Estrella JS (2015)	F/ 52 yo	Jaundice	Head	15†	CD34, bcl-2
Han HS (2015)	F/ 77 yo	Jaundice	Head	1.5	CD34, CD99
Paramythiotis D (2016)	M/ 55 yo	Pain	Body	3.6†	CD34, CD99, bcl-2, vi
Spasevska L (2016)	M/ 47 yo	Pain, jaundice	Head	3.5	CD34, CD99, bcl-2, vi, $\beta$ c
D'Amico FE (2017)	M/ 52 yo	Absent	Body	2	CD34
Sheng Q (2017)	M/ 1.2 yo	Jaundice	Head	2†	CD34, vi
French C (2017)	F/ 39 yo	Absent	Head	2.2†	CD34, CD56, bcl-2

F/M: female/male; Yo: year-old; Pain: abdominal pain; Size: main diameter; vi: vimentin; †: cancer

The majority of patients were females (76%) and symptomatic (56%) with abdominal or back pain (11/14) and jaundice (4/14). The

distribution by age range was 0-9: 1; 20-29: 1; 30-39: 1; 40-49: 5; 50-49: 12; 60-69: 3; and 70-79: 2 cases. Worthy of note were the tumors

incidentally found (41.7%), and the predominance of benign (80%) neoplasms. The greater tumor diameters varied from 1.5 to 18.5 cm, with a mean of 5.56 cm and a standard deviation (SD) of 4.60 cm. The tumor sites were on the head (52%), body (40%), and tail (8%) of pancreas. Immunohistochemical expressions were CD34 (96%), Bcl2 (68%), CD99 (44%), vimentin (44%),  $\beta$ -catenin (12%), and CD10, CD68, CD117, and CD56 (4% each)<sup>1-10</sup>. Three of 5 patients with malignant tumors were symptomatic (jaundice: 2 and pain: 1) without difference between genders; the mean age was 39.84 years, with SD of 22.46 years. The sites of these tumors were on the head (3/5) and on the body or tail (1/5 each); their mean size was 5.65 cm with a SD of 6.27 cm; whereas CD34 (5/5), bcl-2 (4/5), and CD99, CD56 and vimentin were the immunohistochemical confirmatory data.

Long term follow-up is mandatory after excision of SFTPs without chemotherapy; and further prospective research is needed to elucidate pathogenic mechanisms of this rare entity.

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