

# Detection of sporadic pancreatic cancer (SPC) – Time for change

P. Frič<sup>1</sup>, J. Škrha<sup>2</sup>, A. Šedo<sup>3</sup>, P. Bušek<sup>3</sup>,  
M. Laclav<sup>1</sup>, P. Škrha<sup>5</sup>, B. Seifert<sup>4</sup>, M. Zavoral<sup>1</sup>

<sup>1</sup>Dept. of Medicine, Military University Hospital,  
<sup>2</sup>3<sup>rd</sup> Dept. of Medicine, <sup>3</sup>Institute of Biochemistry and  
Experimental Oncology, <sup>4</sup>Institute of General Medicine,  
General University Hospital and 1<sup>st</sup> Faculty of Medicine  
Charles University, <sup>5</sup>2<sup>nd</sup> Dept. of Medicine 3<sup>rd</sup> Faculty of  
Medicine, Charles University, Prague, Czech Republic

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# Occurrence of pancreatic cancer

- in the Czech Rep in 2011: 2184 newly diagnosed  
1934 deaths
  - in the USA in 2013: 42200 new cases  
38460 deaths
-  in 2020: 2nd most frequent cause of death  
for malign tumor

**Five years survival: 3-5 %**

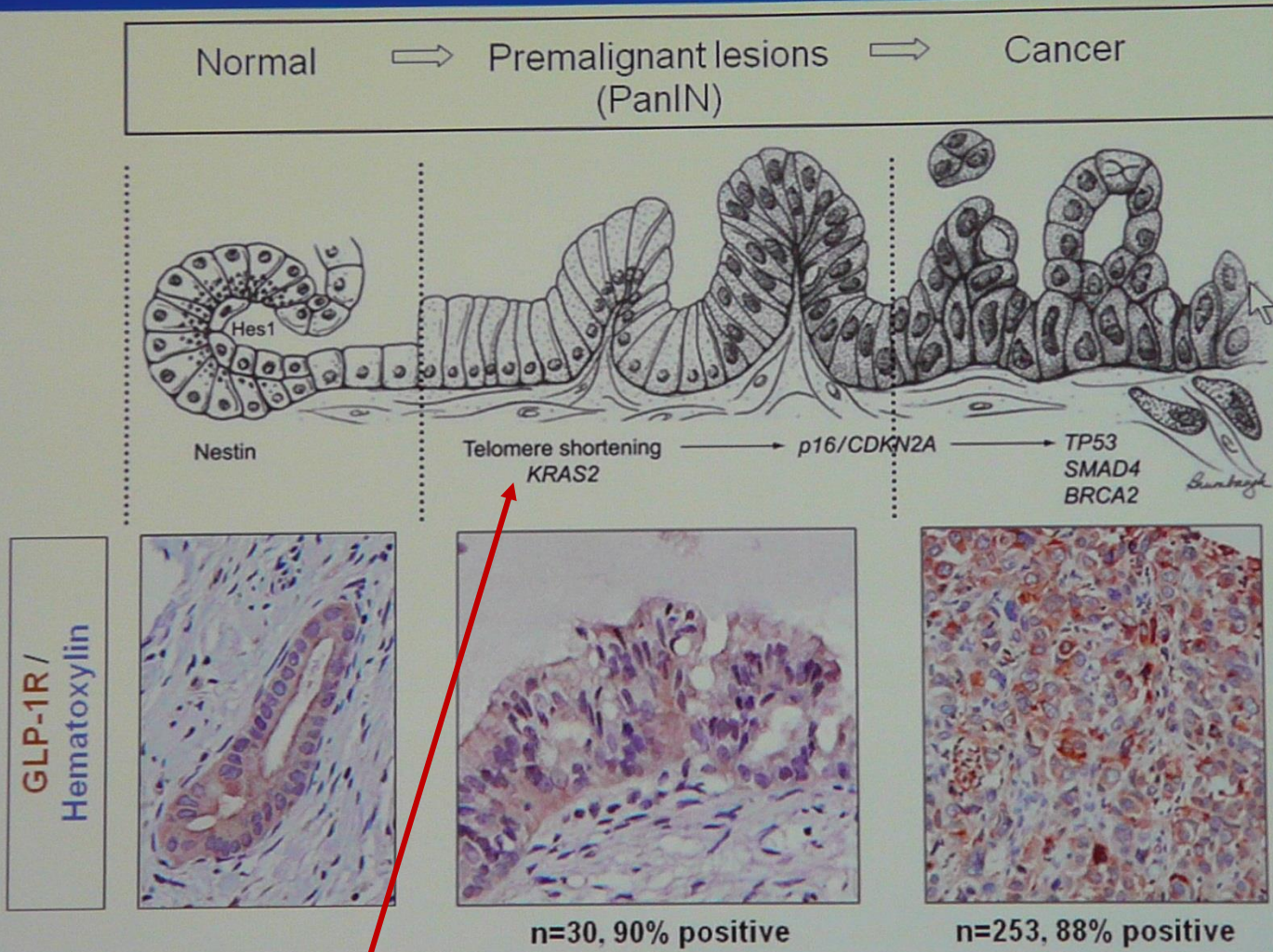
# Cancers in diabetes

(metaanalyses, over 100 thousands of cancers)

Cancer	RR (95% interval)
Pancreas	1,82 (1.71-1.94)
Breast	1,20 (1.12-1.28)
Endometrium	2,10 (1.93-3.24)
Liver	2,50 (1.93-3.24)
Colon	1,30 (1.20-1.40)
Urinary blad	1,24 (1.08-1.42)
Prostate	0,84 (0,76-0.93)

*Rehnan, Smith, Kirkman, Lancet 2010, 2201-3*

# Human GLP-1 receptor expression in health and malignancy



Pancreatic intraepithelial neoplasia (PanIN1-3)

Development to the stage of cancer: 12-16 yrs

Butler et al., 2011

**Diabetes mellitus and pancreatic cancer**

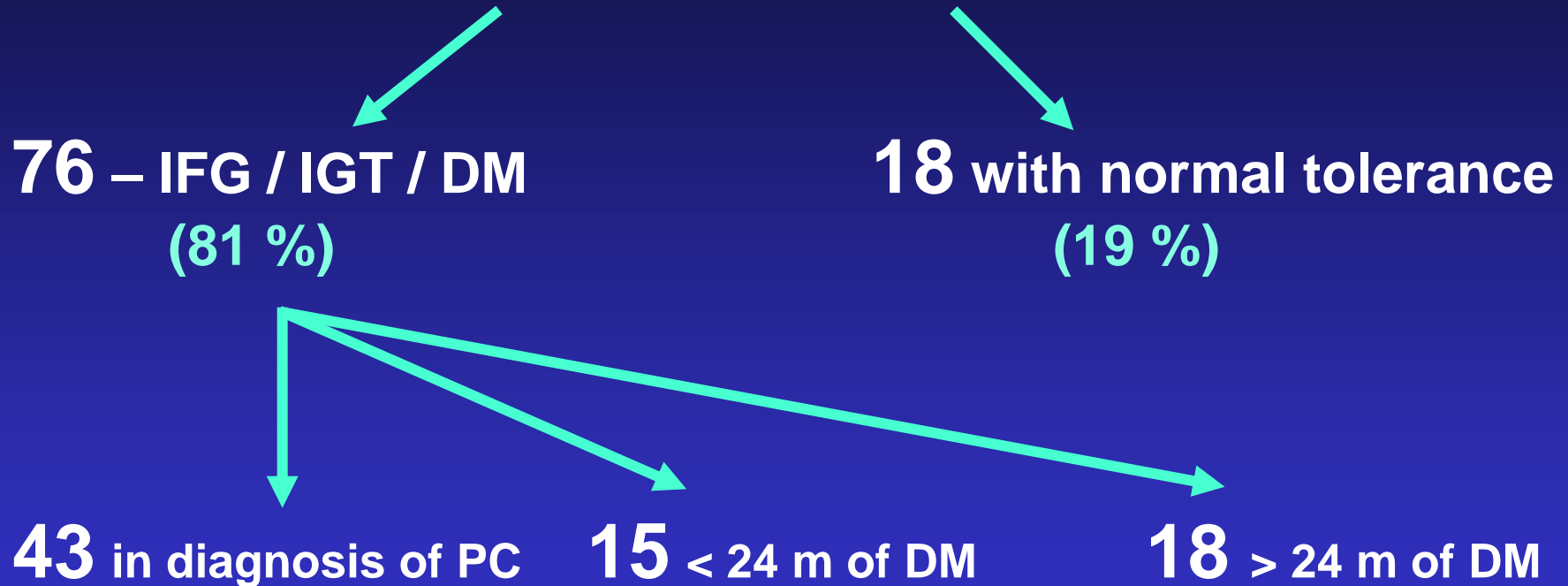


**Pancreatic cancer and diabetes mellitus  
(T3c)**

# Pancreatic cancer + diabetes

## 2013-2015

94 patients with pancreatic cancer



56 %

76 % SPC within 24 months of duration DM

# Pancreatic cancer and diabetes

**DM / Prediabetes as the first symptom of SPC**

**94 patients with PC: 88 in the stage T3 a T4**

**94 %**

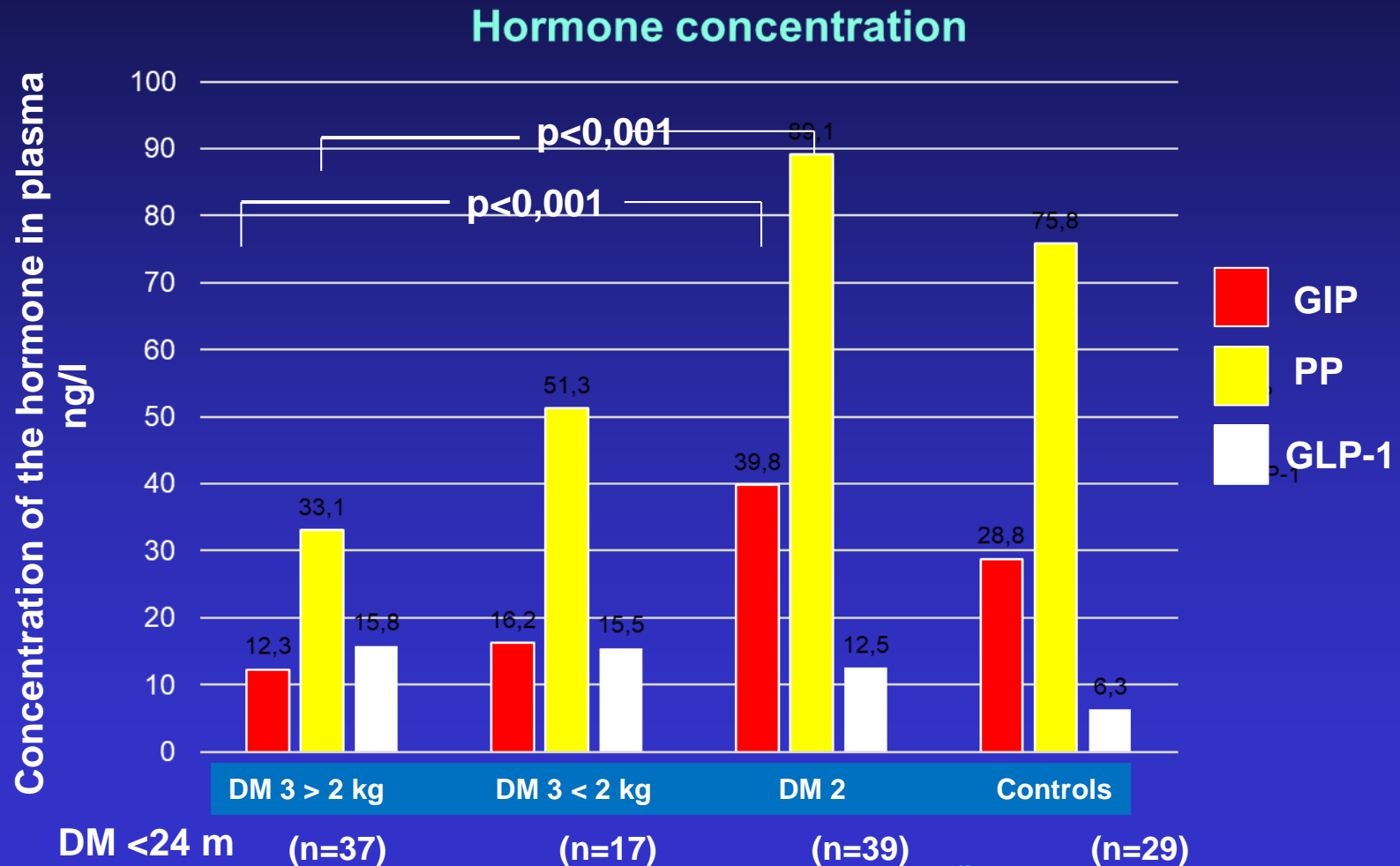
**Screening:**

**CEA                      36 % positive**

**CA 19-9                63 % positive**

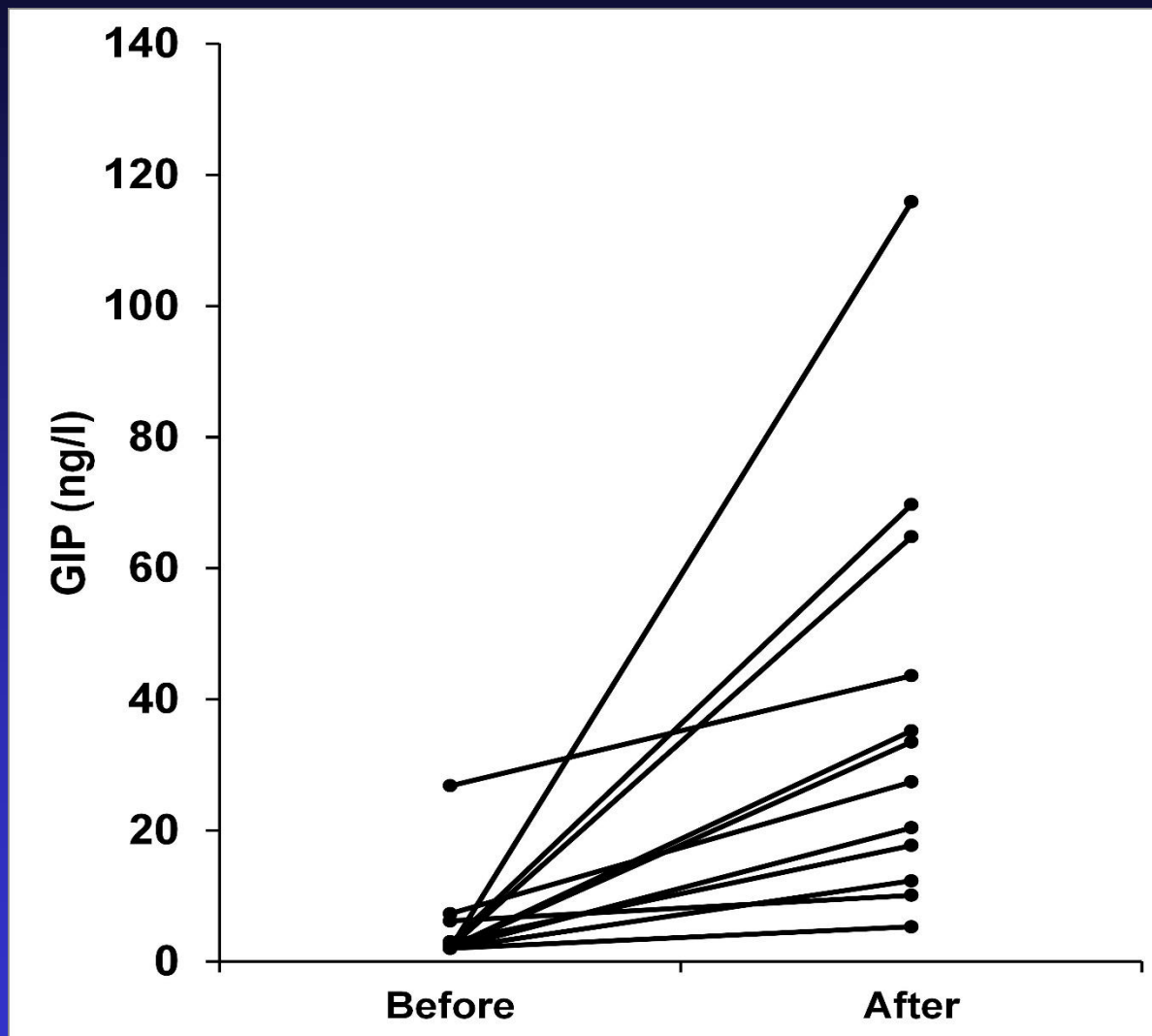
# Are any other specific markers for diagnosis of pancreatic cancer?

## a) biochemical (GIP, PP, GLP-1)



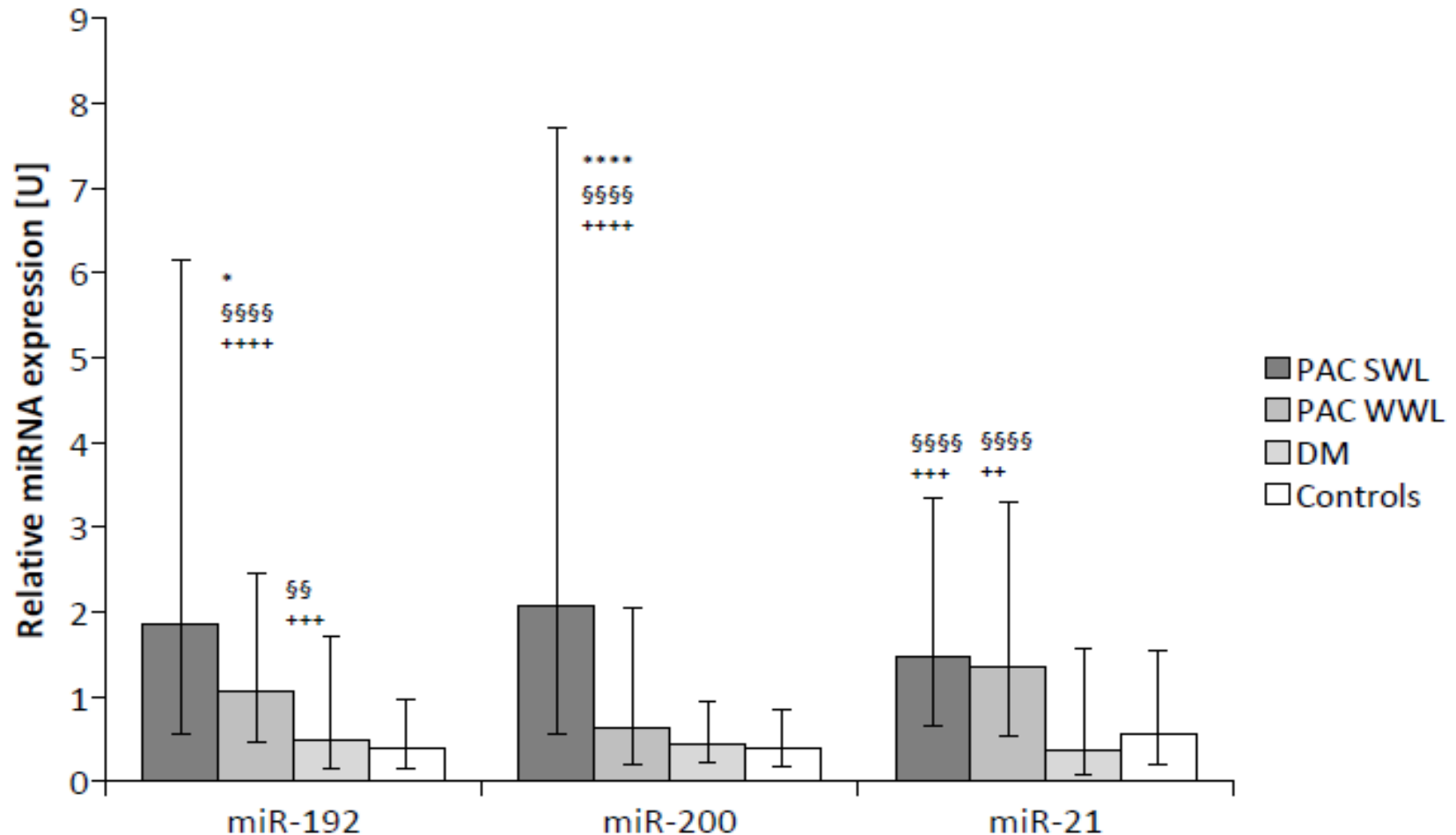


## GIP concentrations before and 3 months following operation (n=12)



# Are any other specific markers for diagnosis of pancreatic cancer?

## b) molecular biologic - miRNA



# Pathogenesis of SPC

unclear – permanent source of discussions

**ADRENOMEDULIN**  
produced by SPC cells



cause of the B-cell dysfunction



newly manifested diabetes (T3c)