

# Pancreatic cancer-early diagnosis

## Introduction

Various artists and celebrities have died by the disease, Luciano Pavarotti a famous tenor, Henry Mancini composer of music for films and TV series, Steve Jobs founder of Apple Company, and Patrick Swayze actor and star of numerous movies. Its is a fact that often, the diagnosis is made at late stage of the disease, when they are advanced, 85-90% of cases are inoperable, with a average life of 10-20 months.<sup>1</sup>

The pancreatic echo sonography must be well done, fully showing the morphology of the páncreas, the best plane in the transversal in the upper abdomen, in deep inspiration, observing the head, body and tail in front of the splenic vein (Figure 1). It is very important to note superior mesenteric artery, because this vessel divides the páncreas in a cefalo-corporal and a corpocaudal areas, 75% of neoplasms of the páncreas are in the first zone and 25% in the second. In preparation for this test, antifatulents the previous day should be used to avoid artifacts gas in the stomach, duodenum and splenic flexure of the colon, causing inadequate observation. We use the RULE OF THREE: All pancreatic size greater than 3 centimeters is abnormal and should be studied. All pancreatic duct greater than 3 millimeters is abnormal and should be studied.



Figure 1 Head, body and tail of the normal pancreas.

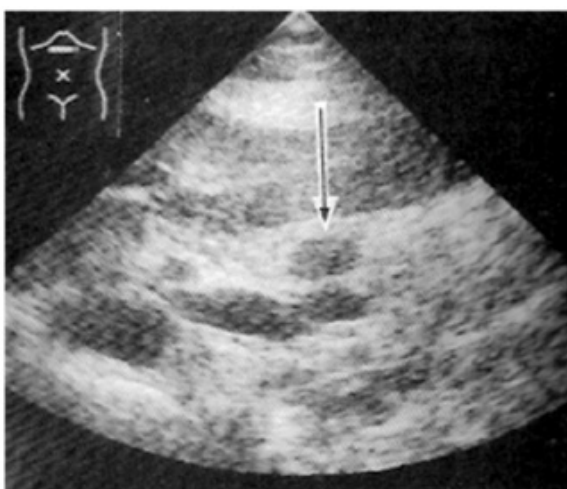


Figure 2 Solitary tumor lesion in the body of the pancreas.

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## Sonographic Detection of Pancreatic Cancer

- i. Direct Signs (Figure 2)
  - a. Focal growth
  - b. Irregularities of the shape
  - c. Focal hypoechoic parenchyma
- ii. Indirect signs
  - a. Pancreatic duct dilatation (Figure 3) (Figure 4)
  - b. Dilatation of bile ducts (Figure 5) (Figure 6)
- iii. Vascular compression or invasión (Figure 7)
- iv. Lymphnode or liver metastases (Figure 8)

Clearly it shows that the direct signs indicate a better prognosis and indirect signs indicate bad prognosis with a short survival and high mortality.

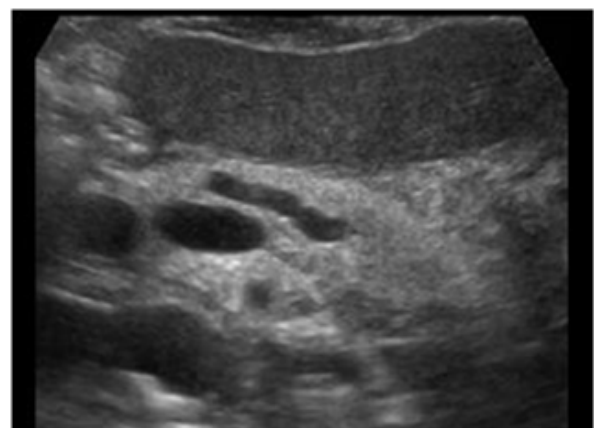


Figure 3 Dilatation of the Wirsung duct, cancer in the head.

## Cancer of the páncreas in early stage

Localized tumor only in the páncreas with a size less than 3.4cms (+/-0.4cms) or 3cms or 2cms<sup>2,3</sup> Or stage 1: T1 No Mo.

## Population at high risk for pancreatic cáncer

1. Age over 65 years

2. Smoking habits<sup>4</sup>
3. Crisis of previous pancreatitis<sup>5</sup>
4. Diabetics<sup>6,7</sup>
5. Alcoholism
6. Ca 19-9 high or in rising trend (Normal: 0-37IU/ml)<sup>8,9</sup>
7. Genome proneto cáncer of the páncreas<sup>10</sup>



**Figure 4** Dilatation of the Wirsung duct, big cancer in the head



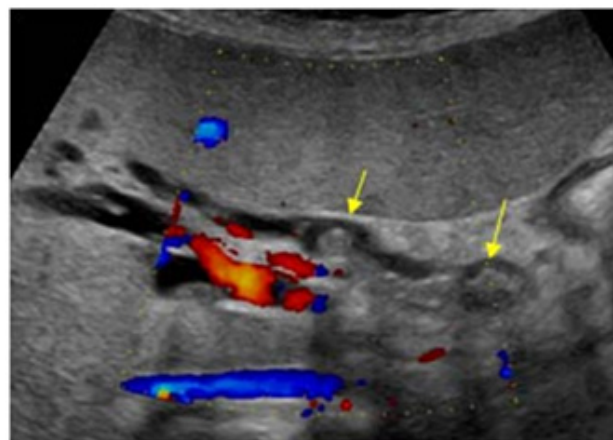
**Figure 5** Dilatation of bile ducts.

**Suggestion**

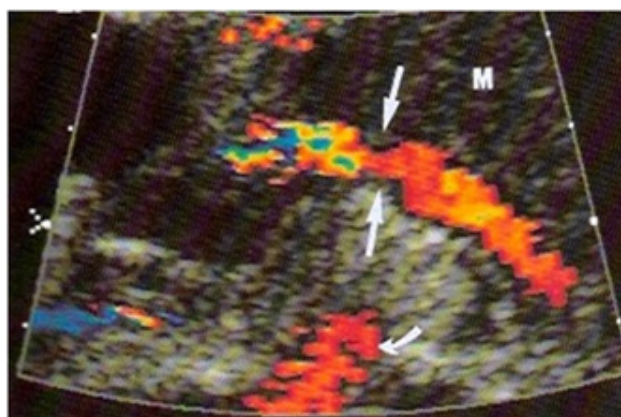
Make determination of Ca 19-9 and pancreatic periodic echo sonography every 6 months in the high risk group. This procedure will permit to make early diagnoses and guide patients suspected to complementary tests: EUS, PCRE, NMR, TAC, fine needle puncture and cytology, percutaneous biopsy or guided by endoscopic sonography and preoperative laparoscopy.

We encourage the medical groups interested in improving the

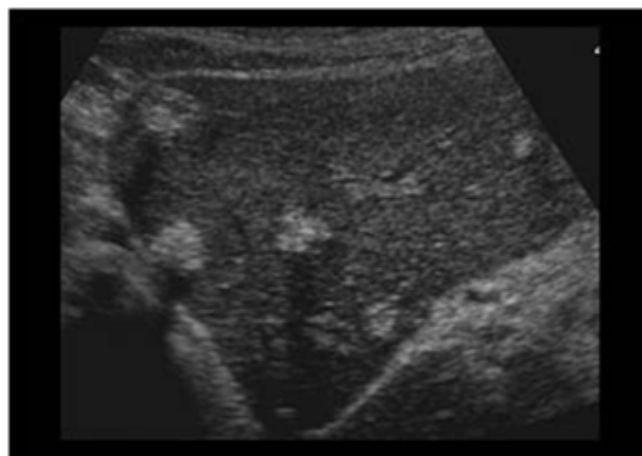
prognosis of cáncer of the páncreas, to plan a study protocol with this suggestion and observe the results.



**Figure 6** Dilatation of the common bile duct.



**Figure 7** Compression and invasion of the splenic vein.



**Figure 8** Several Hepatic metastatic lesions.

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None.

## Conflicts of interest

The authors declare there is no conflict of interests.

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