



Istituto del Pancreas

**CHIRURGIA
DEL
PANCREAS
VERONA**

Belluno Ospedale
San Martino
21 Ottobre 2023



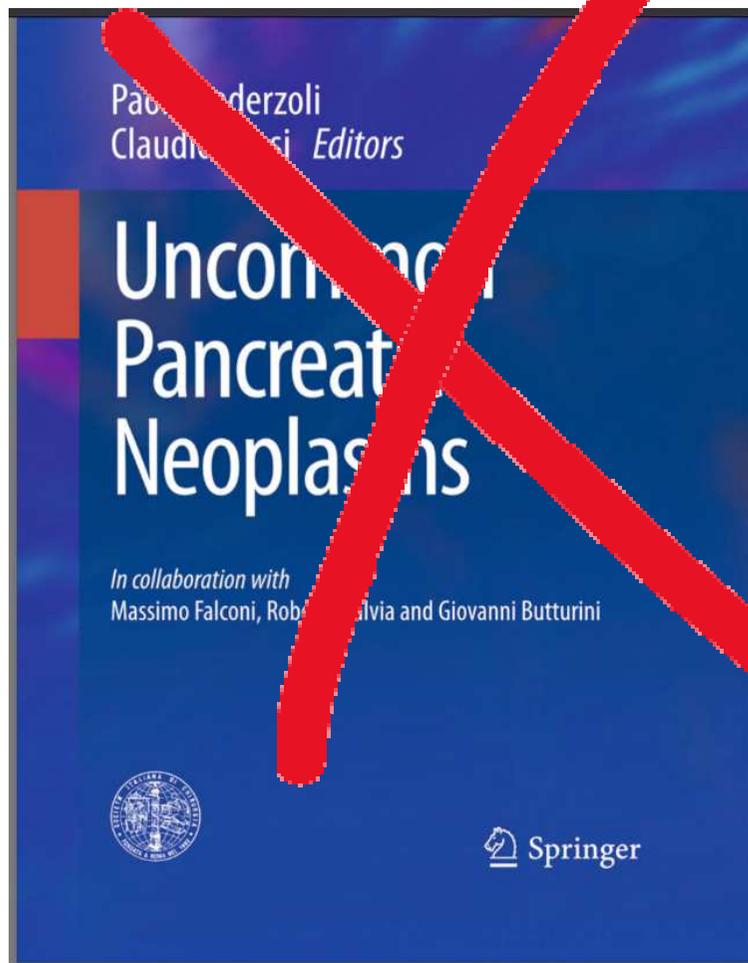
Ordine dei
Medici
Chirurghi
e degli
Odontoiatri
della provincia
di **Belluno** ®



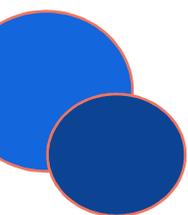
FNOMCeO
Federazione Nazionale degli Ordini
dei Medici Chirurghi e degli Odontoiatri

La Sorveglianza delle Condizioni e delle Lesioni Precancerose Gastroenterologiche **LESIONI CISTICHE PANCREATICHE**

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Non più!
Non oggi !



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ip CHIRURGIA
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Le Neoplasie
Cistiche
Pancreatiche
sono
COMUNI

ORIGINAL ARTICLE

Prospective study on the incidence, prevalence and 5-year pancreatic-related mortality of pancreatic cysts in a population-based study

Kromrey M-L, et al. *Gut* 2018;**67**:138–145. doi:10.1136/gutjnl-2016-313127

Overall prevalence → 50%

Yearly incidence → 12%

Pancreatic cancer → none!

Design A total of 1077 participants (521 men, mean age 55.8±12.8 years) of 2333 participants from the population-based Study of Health in Pomerania (SHIP) underwent magnetic resonance cholangiopancreatography (MRCP) at baseline (2008–2012). MRCP was analysed for pancreatic cysts with a diameter ≥2 mm. 676/1077 subjects received a 5-year follow-up (2014–2016). The prevalence and incidence of pancreatic cysts (weighted for study participation) were assessed in association to age, gender and suspected epidemiological risk factors. Mortality follow-up was performed in 2015 for all SHIP participants (mean follow-up period 5.9 years, range 3.2–7.5 years).

Conclusion The prevalence of pancreatic cysts in the general population is unexpectedly high, and their number and size increase with age. Overall, no pancreatic cancer was observed in this collective during a 5-year follow-up. Nevertheless, prospective follow-up imaging showed minimal progress in more than 50%. Only about 6% of cysts and 2.5% of the study group initially presented with cysts of more than 1 cm and thus might be clinically meaningful.

BMJ Journals

Gut

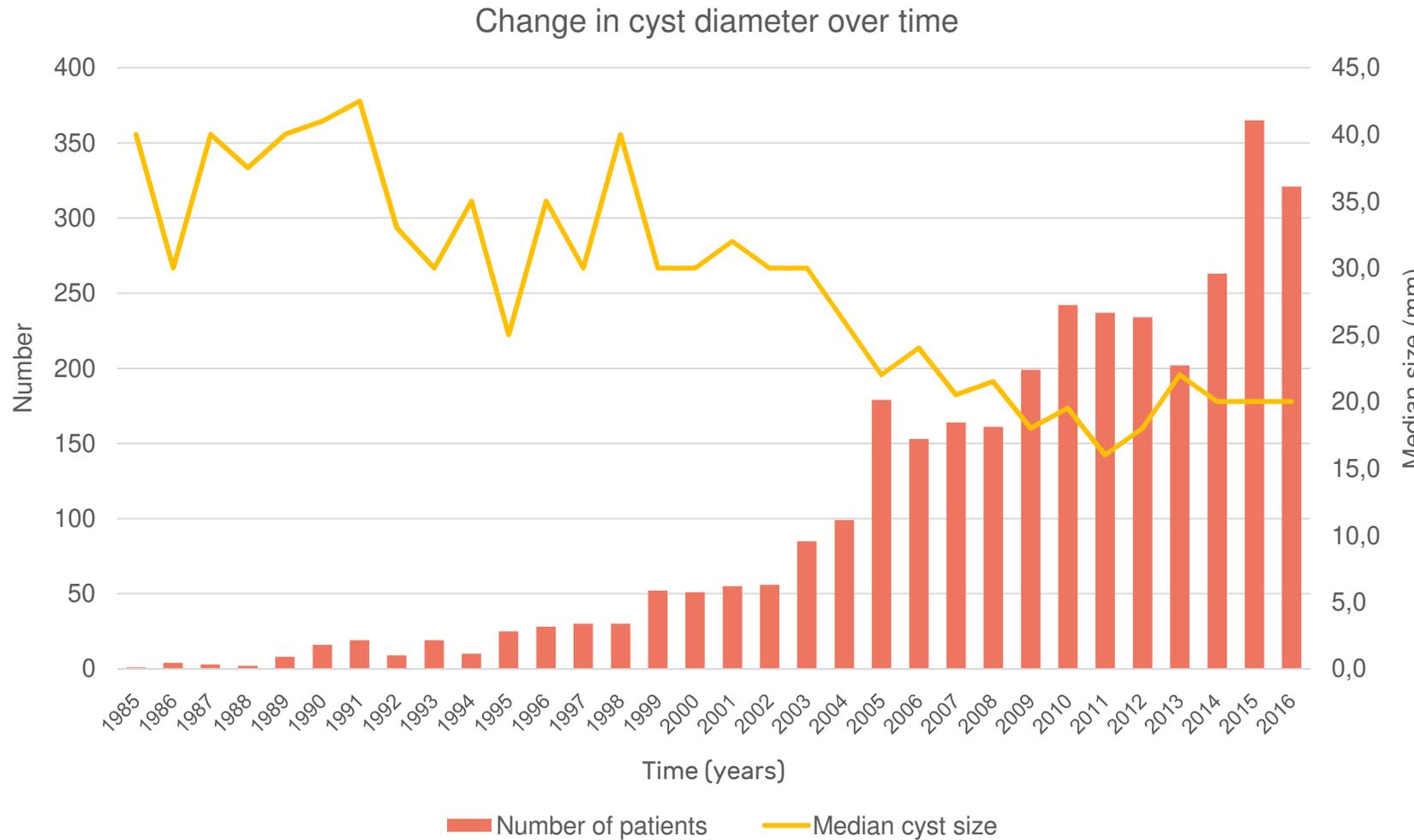
3332 pazienti
presso
L'Istituto del
Pancreas di
Verona (1985-
2016)



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di VERONA



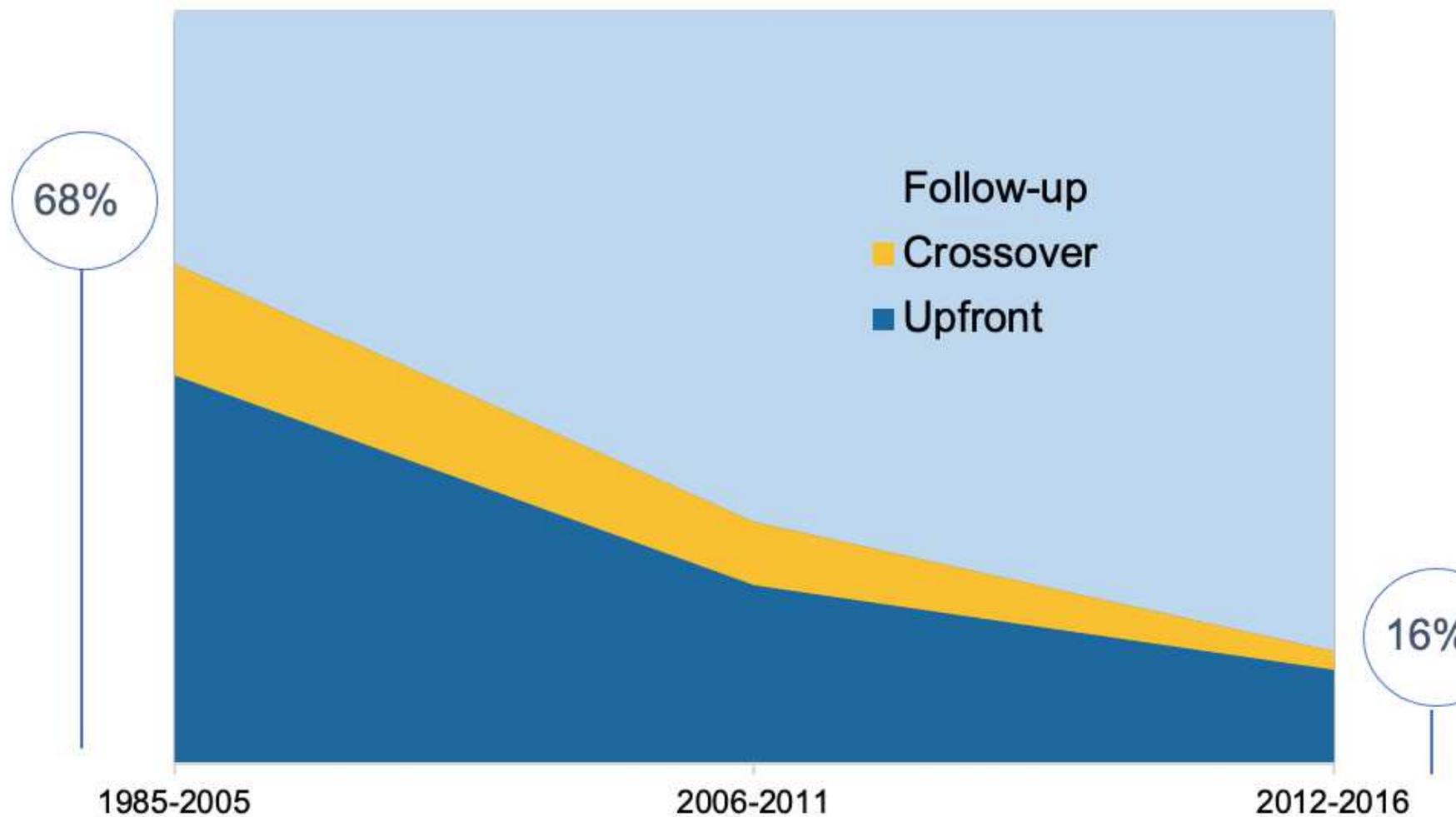
CHIRURGIA
DEL PANCREAS
VERONA



nostra esperienza negli anni ...

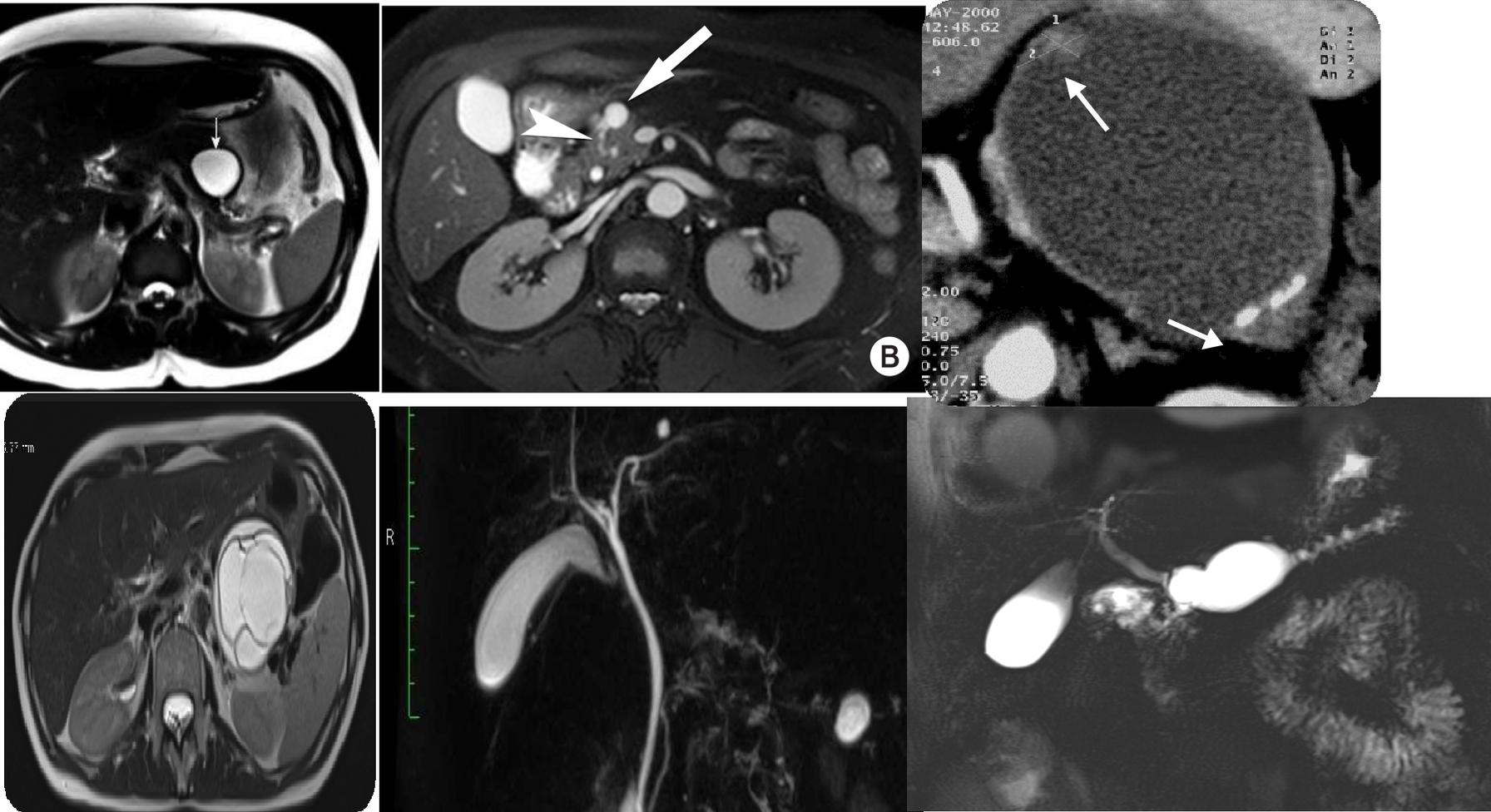
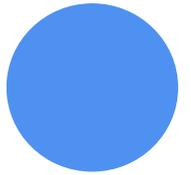
evoluzione nel tempo e **DECISIONE CLINICA**

3332 pazienti Istituto
Pancreas Verona
(1985-2016)



...NON sempre così facile:

Lesioni cistiche
indeterminate



...Sappiamo
veramente
di cosa
stiamo
parlando

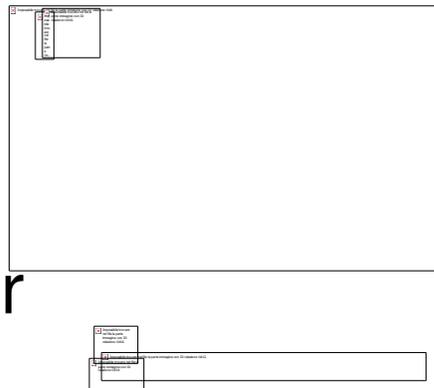
Surgery. 2012 Sep;152(3 Suppl 1):S135-42. doi: 10.1016/j.surg.2012.05.019. Epub 2012 Jul 3.

Pancreatic resections for cystic neoplasms: from the surgeon's presumption to the pathologist's reality

Roberto Salvia ¹, Giuseppe Malleo, Giovanni Marchegiani, Silvia Pennacchio, Salvatore Paiella, Marina Pagni, Antonio Pea, Giovanni Butturini, Paolo Pederzoli, Claudio Bassi

Mis-diagnosi in
22 % dei pazienti
operati

9% sottoposti a
pancreasectomia per
condizioni non
neoplastiche



Coorte di Neoplasie Cistiche Pancreatiche dal 2000 to 2010

476 casi



La realtà del «Patologo»

Diagnosi patologica finale
concorde con la diagnosi
preoperatoria nel 78% dei
casi

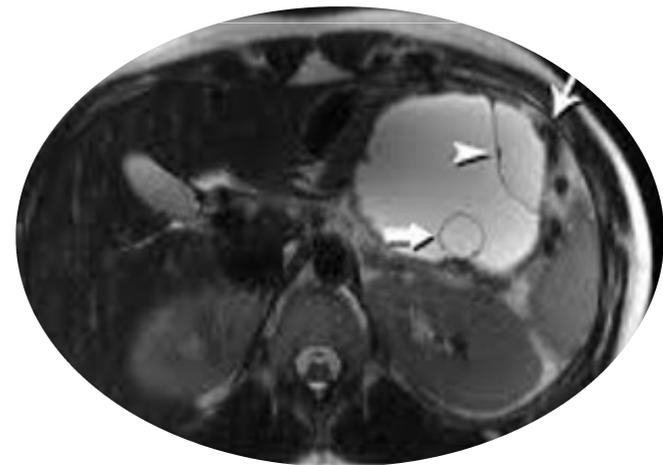
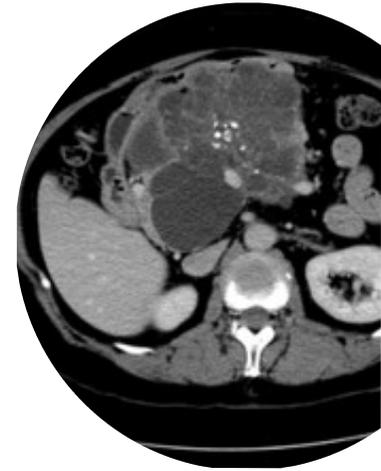
Classificazioni delle Neoplasie Cistiche Pancreatiche:

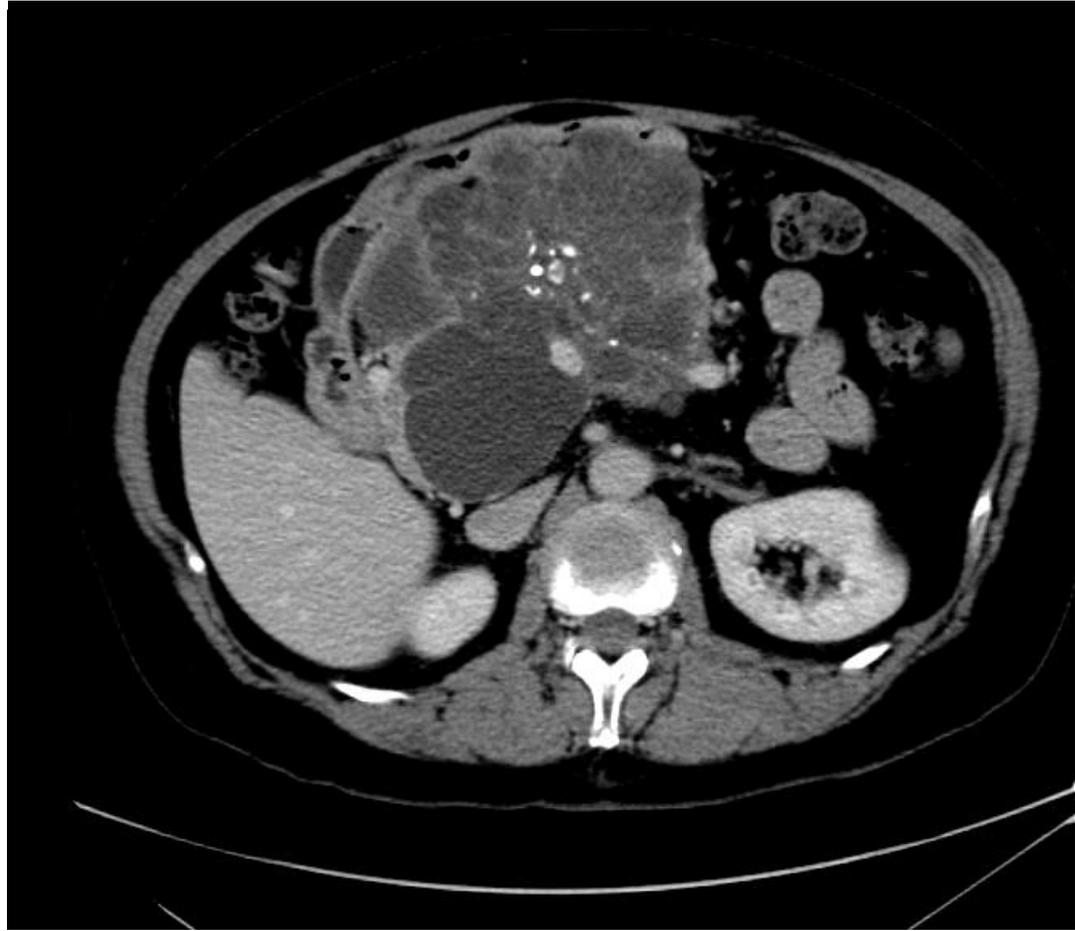
Biological Classification of Pancreatic Cystic Tumours

Benign
serous cystadenoma
mucinous cystadenoma

Pre-malignant
ductal papillary mucinous neoplasms with low- or intermediate-grade dysplasia
ductal papillary mucinous neoplasms with high-grade dysplasia
ductal tubulopapillary neoplasms
mucinous cystic neoplasms with low- or intermediate-grade dysplasia
mucinous cystic neoplasms with high-grade dysplasia

Malignant
serous cystadenocarcinoma
ductal papillary mucinous neoplasms with an associated invasive carcinoma
mucinous cystic neoplasms with an associated invasive carcinoma
solid pseudopapillary neoplasms





CistoAdenoma
Sieroso
(CAS)

ORIGINAL ARTICLE

Serous cystic neoplasm of the pancreas: a multinational study of 2622 patients under the auspices of the International Association of Pancreatology and European Pancreatic Club European Study Group on Cystic Tumors of the Pancreas)

Jais,¹ V Rebours,¹ G Malleo,² R Salvia,² M Fontana,² L Maggino,² C Bassi,² Manfredi,² R Moran,^{3,4,5} A M Lennon,^{3,4,5} A Zaheer,^{3,4,5} C Wolfgang,^{3,4,5}

2622 pz con CistoAdenoma Sieroso CAS

3 cistoadenocarcinoma sieroso

52% sottoposti a

chirurgia

Mortalità postoperatoria = **0.6%** (n=10)

Mortalità correlate al CAS = **0.1%** (n=1)



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BMJ Journals

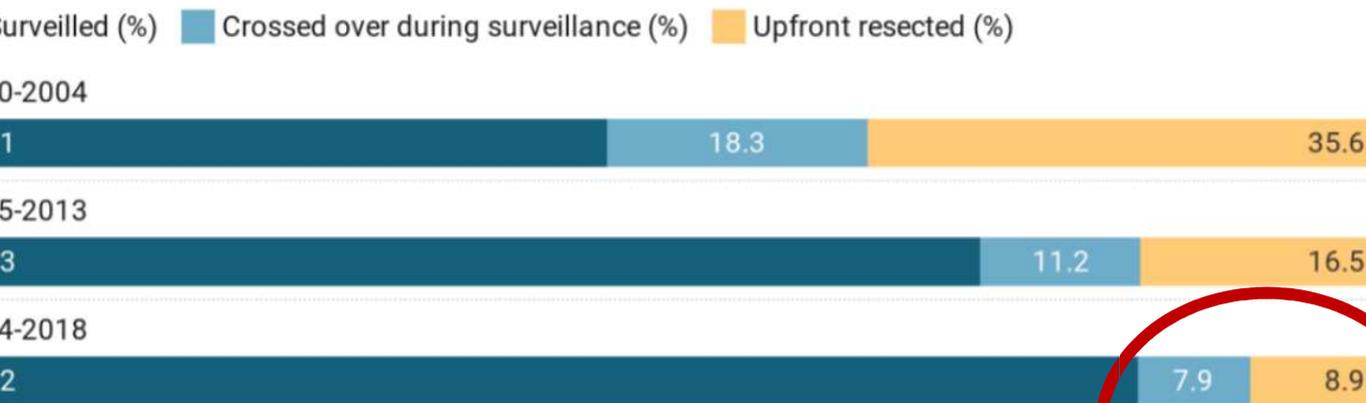
Gut



Various Cystic Neoplasms of the Pancreas Management in the Real-world: Still Operating on a Benign Entity



Time trend in management strategies

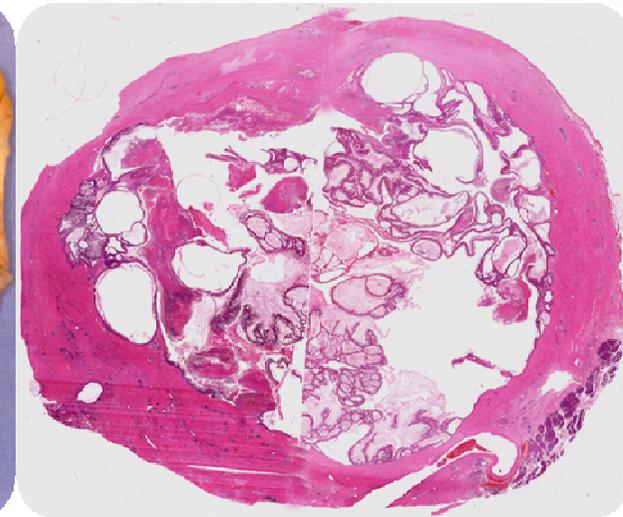
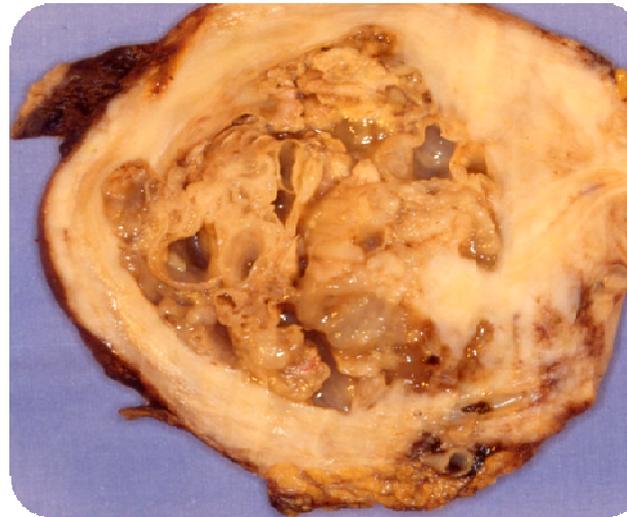
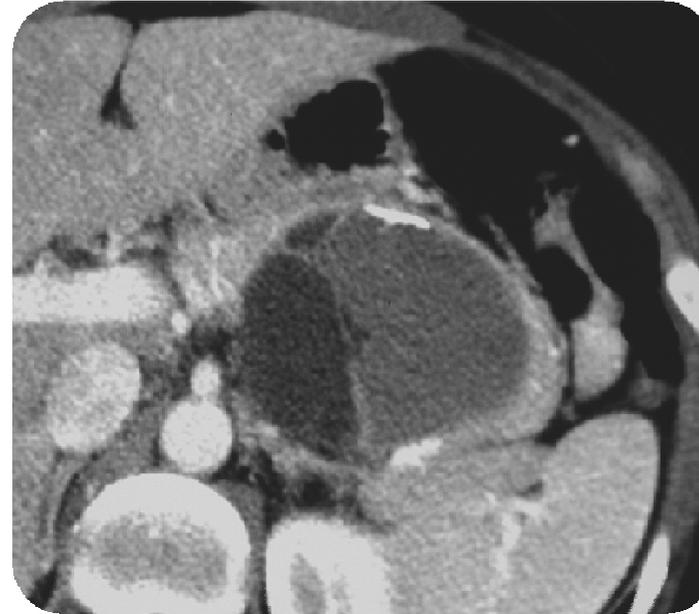


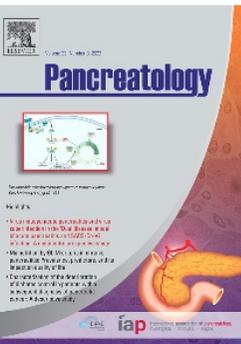
17 %

- Sintomi
- Aumento dimensionale
- Componente solida (?)
- Diagnosi Errata (18%)



CistoAdenom a Mucinoso (CAM)





International consensus guidelines 2012 for the management of IPMN and MCN of the pancreas

Masao Tanaka^{a,*}, Carlos Fernández-del Castillo^b, Volkan Adsay^c, Suresh Chari^d, Massimo Falconi^e, Jin-Young Jang^f, Wataru Kimura^g, Philippe Levy^h, Martha Bishop Pitmanⁱ, C. Max Schmidt^j, Michio Shimizu^k, Christopher L. Wolfgang^l, Koji Yamaguchi^m, Kenji Yamaoⁿ

CAM in pazienti
“fit for surgery”



Pancreasectomy



European evidence-based guidelines on pancreatic cystic neoplasms The European Study Group on Cystic Tumours of the Pancreas

5 Mucinous cystic neoplasm

5.1 Should patients with MCN always undergo surgical resection?

MCN ≥ 40 mm should undergo surgical resection. Resection is also recommended for MCN which are symptomatic or have risk factors (ie, mural nodule) irrespective of their size¹⁹² (GRADE 1B, strong agreement).

The rate at which the size of an MCN increases should be considered. Some case reports have suggested considerably faster growth of MCN during pregnancy, potentially leading to tumour rupture.¹⁹³ Therefore, patients with MCN should be observed closely during pregnancy.



Actual malignancy risk of either operated or non-operated presumed mucinous cystic neoplasms of the pancreas under surveillance

Archegiani ^{1,*}, S. Andrianello ¹, S. Crippa², T. Pollini¹, G. Belfiori², L. Gozzini², F. Cassalia¹, A. Caravati¹, C. Luchini ³,
C. Bassi¹, M. Falconi² and R. Salvia¹



[Volume 108, Issue 9](#)

September 2021

424 CAM osservati (Istituto Pancreas VR + San Raffaele MI)

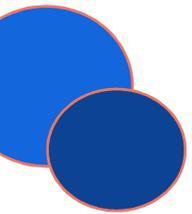
Sospetti CAM alla prima osservazione hanno 20% di rischio di **misdiagnosi** (ridotto dell' EUS!)

Solo 1/10 dei CAM resecati è **maligno**:

Noduli Murali (OR 27.8)

Dimensione $\geq 5\text{cm}$ (OR 13.4)

Ca19.9 elevato (OR 3.9)

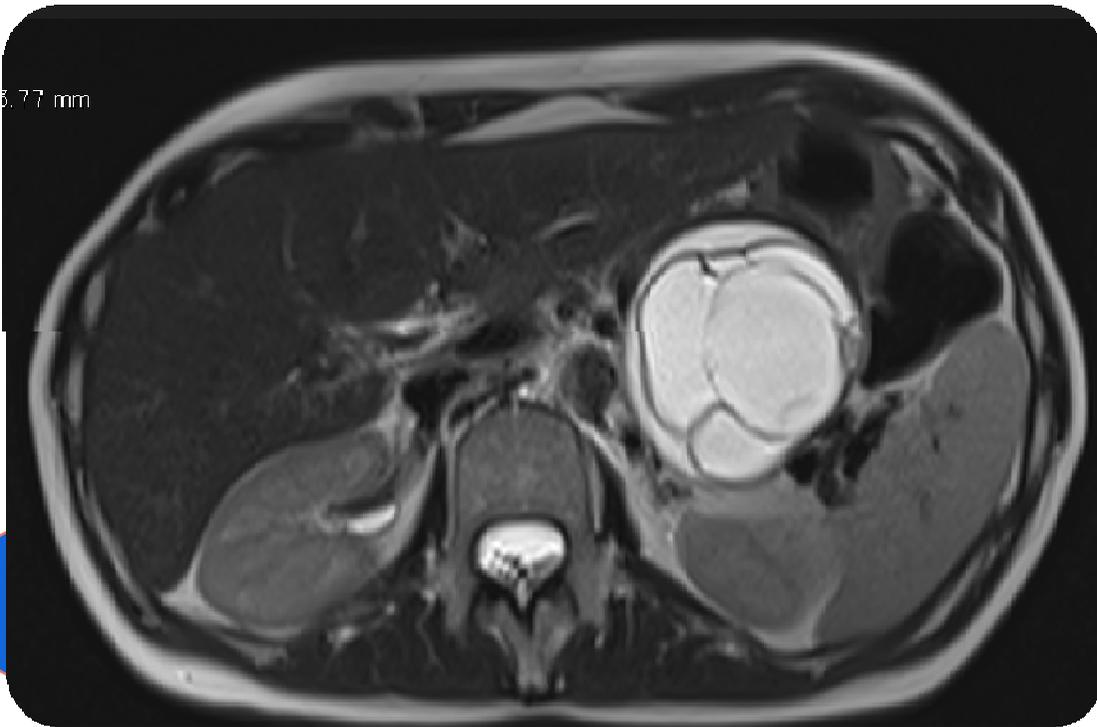


Actual malignancy risk of either operated or non-operated presumed mucinous cystic neoplasms of the pancreas under surveillance

G. Marchegiani ^{1*}, S. Andrianello ¹, S. Crippa², T. Pollini¹, G. Belfiori², L. Gozzini², F. Cassalia¹, A. Caravati¹, C. Luchini ³, C. Doglioni⁴, C. Bassi¹, M. Falconi² and R. Salvia¹



Volume 108, Issue 9
September 2021



Sorveglianza come opzione in :

Assenza Noduli
Cisti (<5cm)
Ca19.9 nei limiti

Perché rimandare la chirurgia:

(solitamente) **giovane età**
(solitamente) **nessun sintomo**
Complicanze postoperatorie
Mortalità
Rischio di **diabete**

IPMN
Neoplasia
Mucinoso
Papillare
Intraduttale

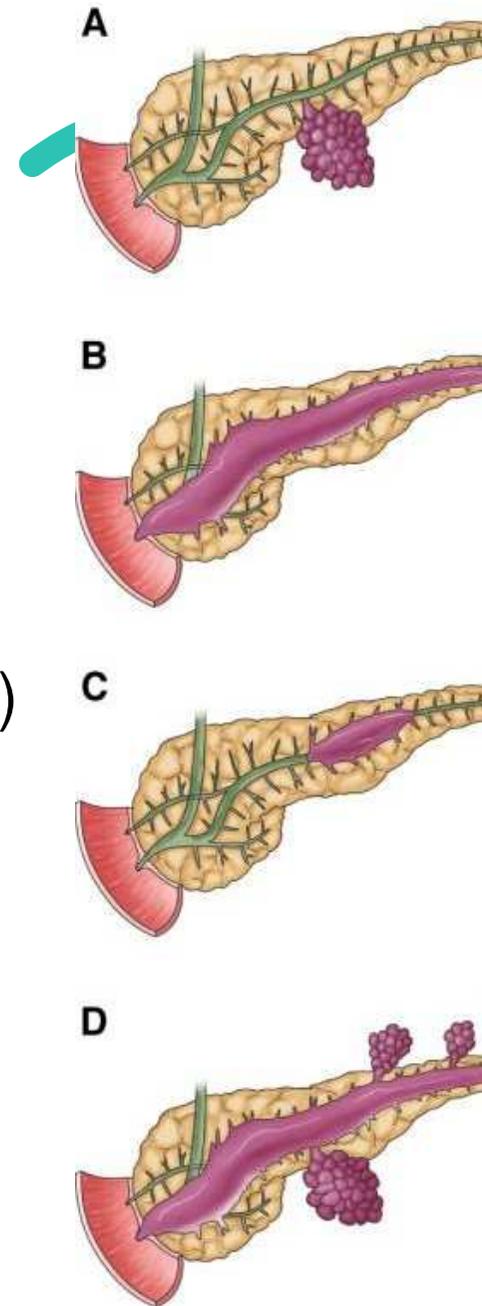
Cisti pancreatiche più
frequente (80%)

M = F

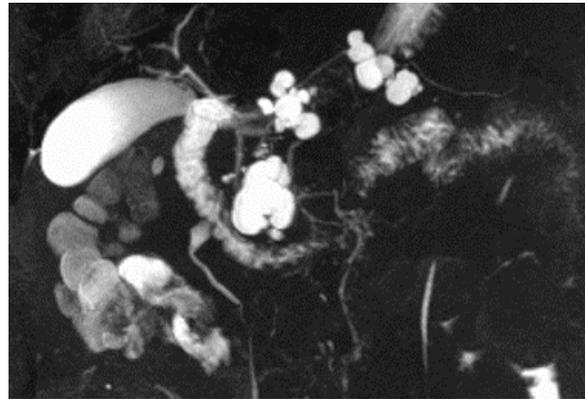
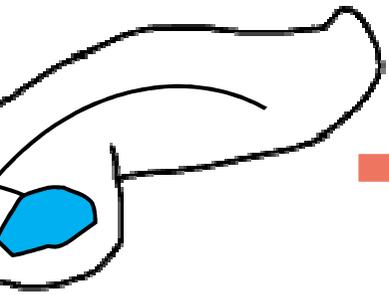
60-70 y (aumentano con **età**)

Diversi sottotipi

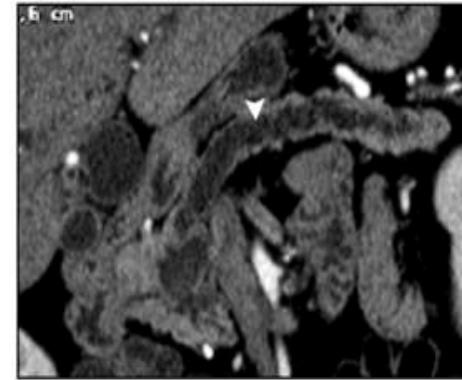
Lesioni più **complesse**



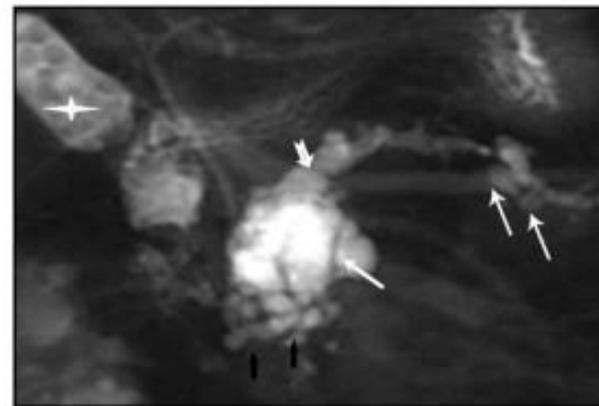
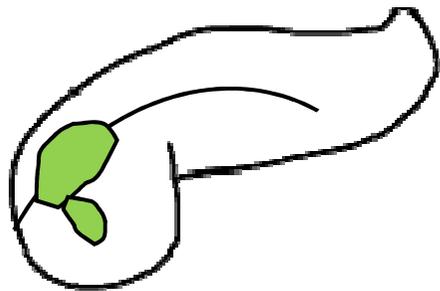
Neoplasia Papillare Mucinoso Intraduttale (IPMN):



IPMN periferici (**BD-IPMN**)

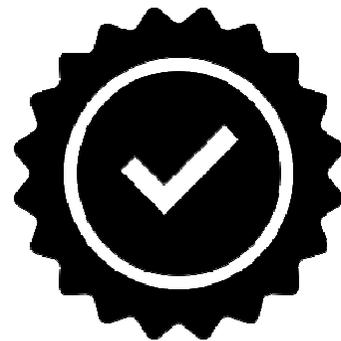
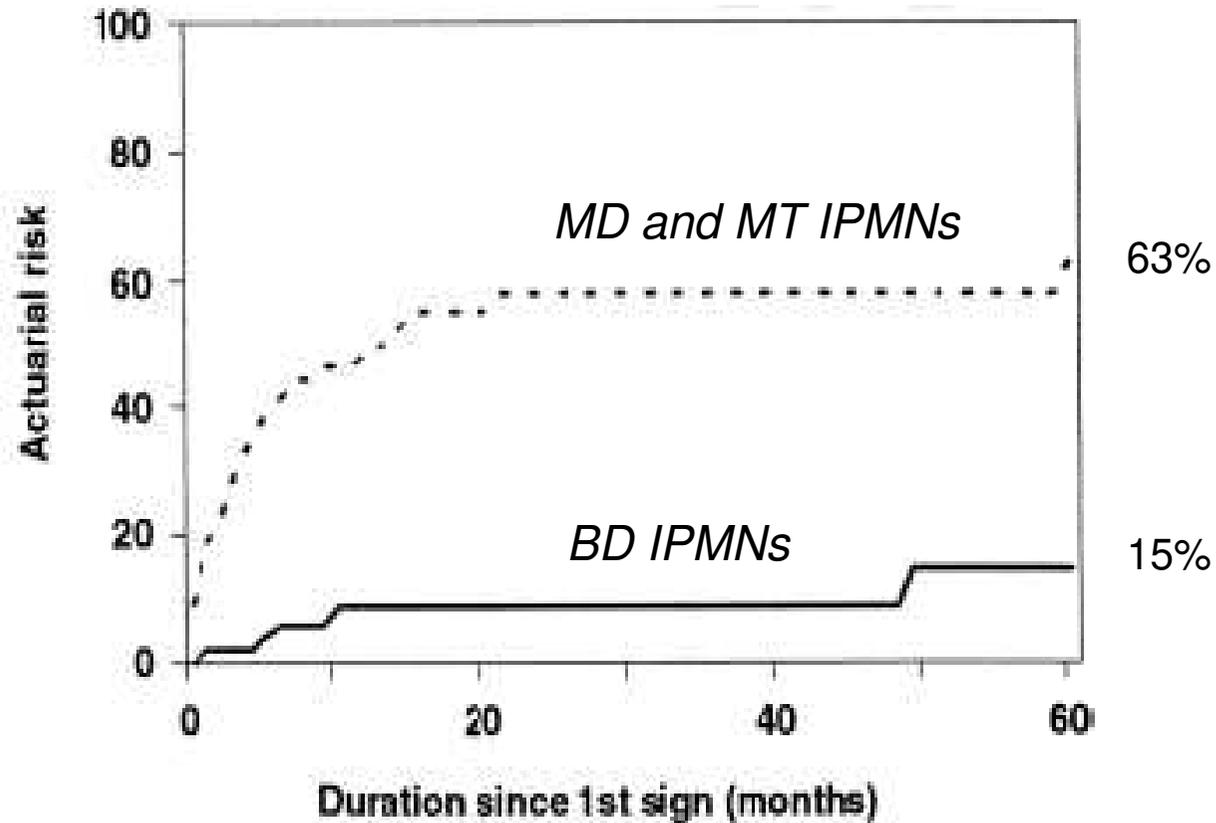


IPMN centrali (**MD-IPMN**)



IPMN mista (**MT-IPMN**)

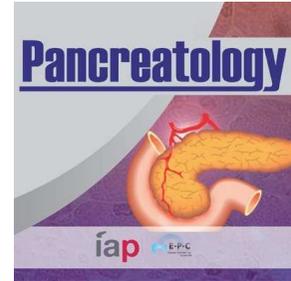
MN: diversi profili di rischio Dati storici (solidi):



Levy et al. Clin Gastroenterol Hepatol 2006;4:460-468

IPMN: differenti profili di rischio... ORA

Alduzzi A, Marchegiani G, Pollini T, et al. *'Systematic review and meta-analysis of observational studies on BD-IPMNS progression to malignancy'* Pancreatology. 2021 May 5

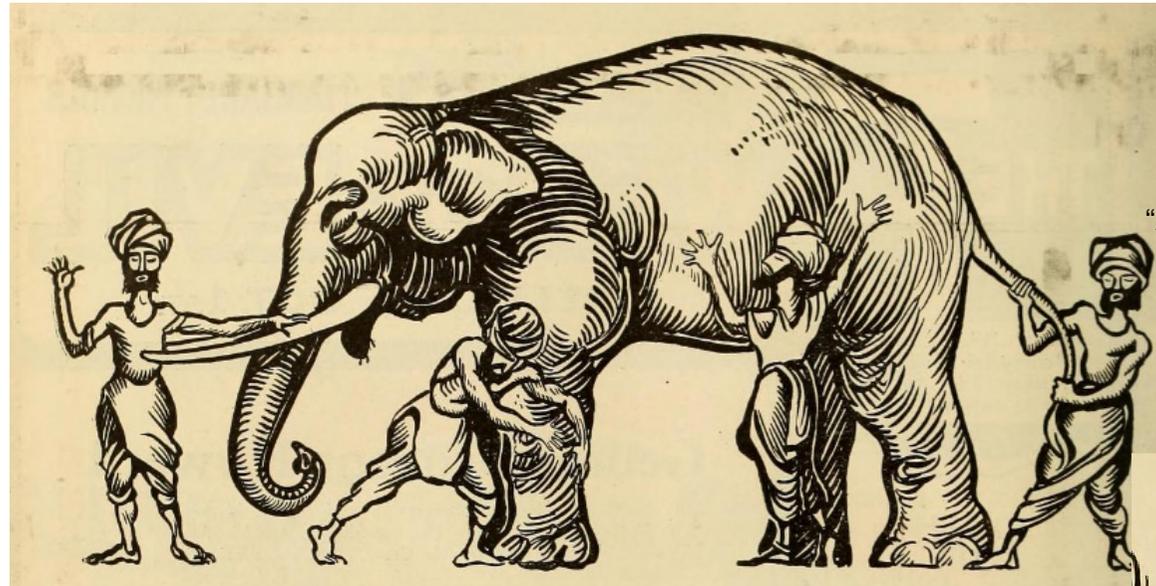


- ▮ 24 articoli, 8941 pazienti con IPMN periferico
- 👤 Tasso di progressione del 20.2% - Tasso di malignità 2.7%
- 🔪 11.8% sottoposti a chirurgia ➤ 29.5% malignità all'istologico

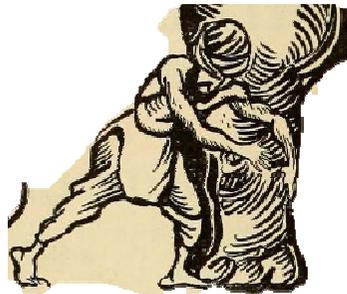
MN la percezione: una questione di prospettiva



“An elephant is a long, curve, pointed object”



“An elephant is exactly like a piece of rope”

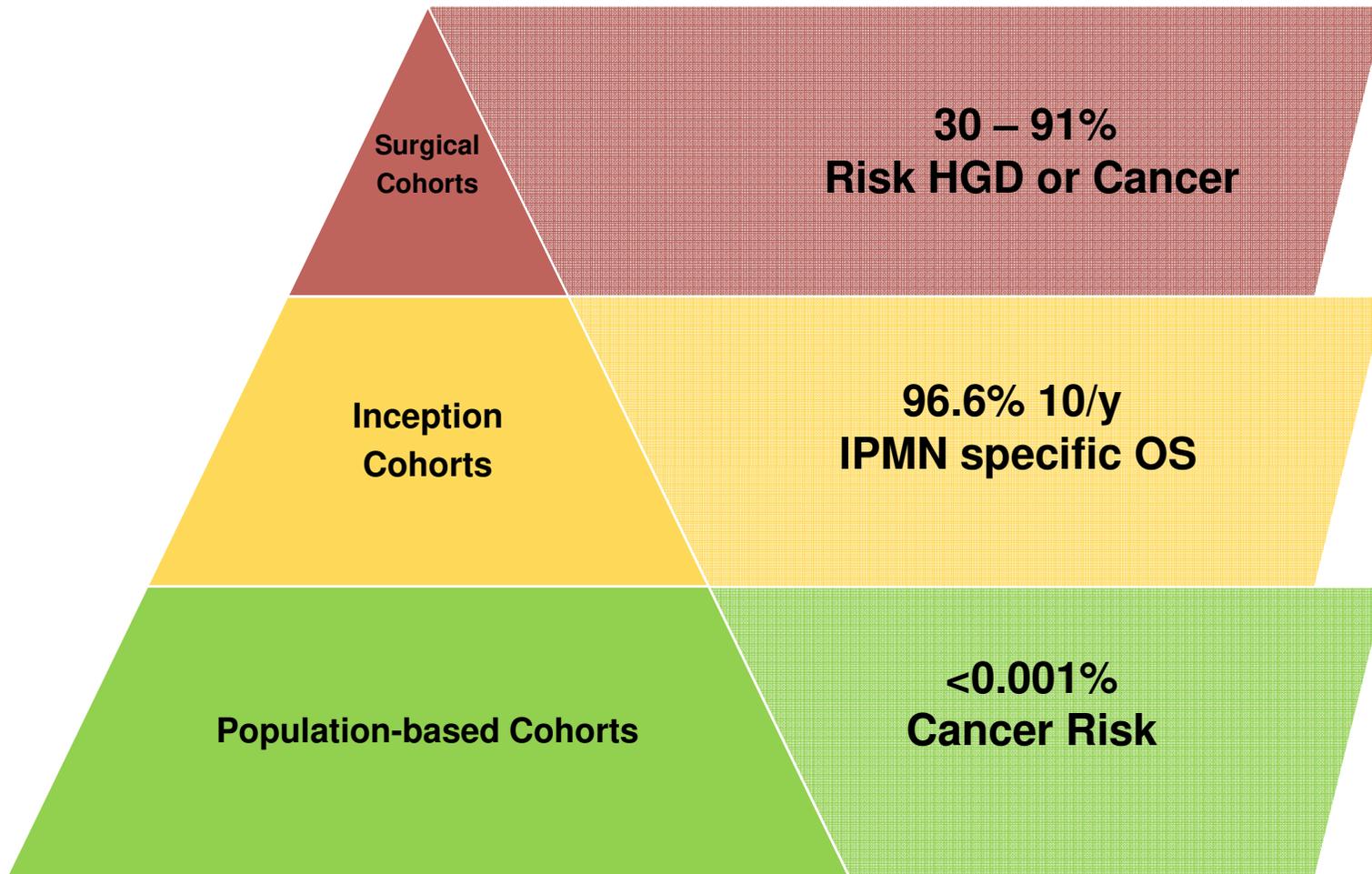


“An elephant is build like a tree”



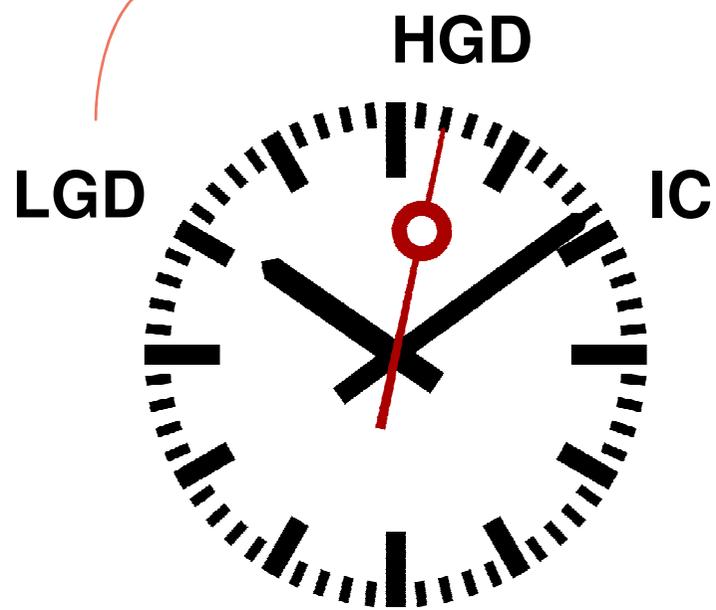
“Elephants are broad, things like a wall”

MN la percezione: una questione di prospettiva



MN e progressione a **cancro**

troppo presto ? ...timing ideale per la chirurgia



troppo tardi?



...Come selezionare il paziente giusto per la resezione chirurgica?

IPMN e progressione a cancro

IPMA Surgery

19, 2021

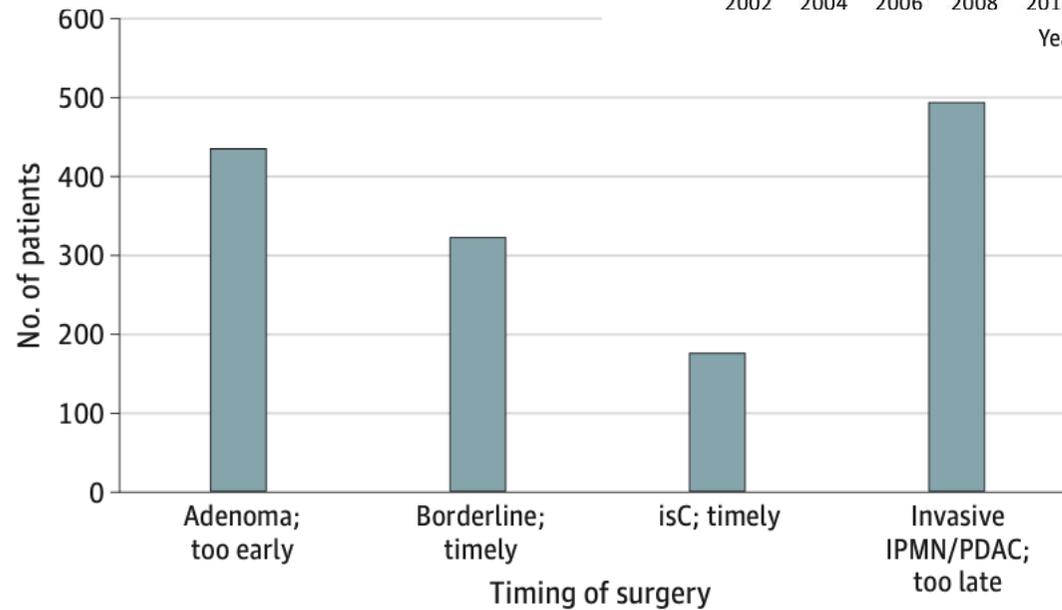
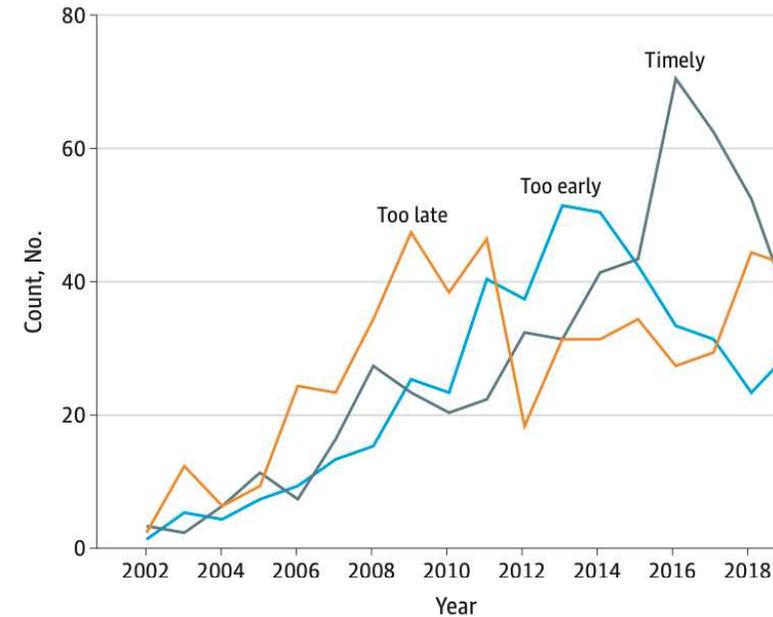
Risk of the Watch-and-Wait Concept in Surgical Treatment of Intraductal Papillary Mucinous Neoplasm

John E. Tjaden, MD¹; Marta Sandini, MD¹; André L. Mihaljevic, MD¹; et al

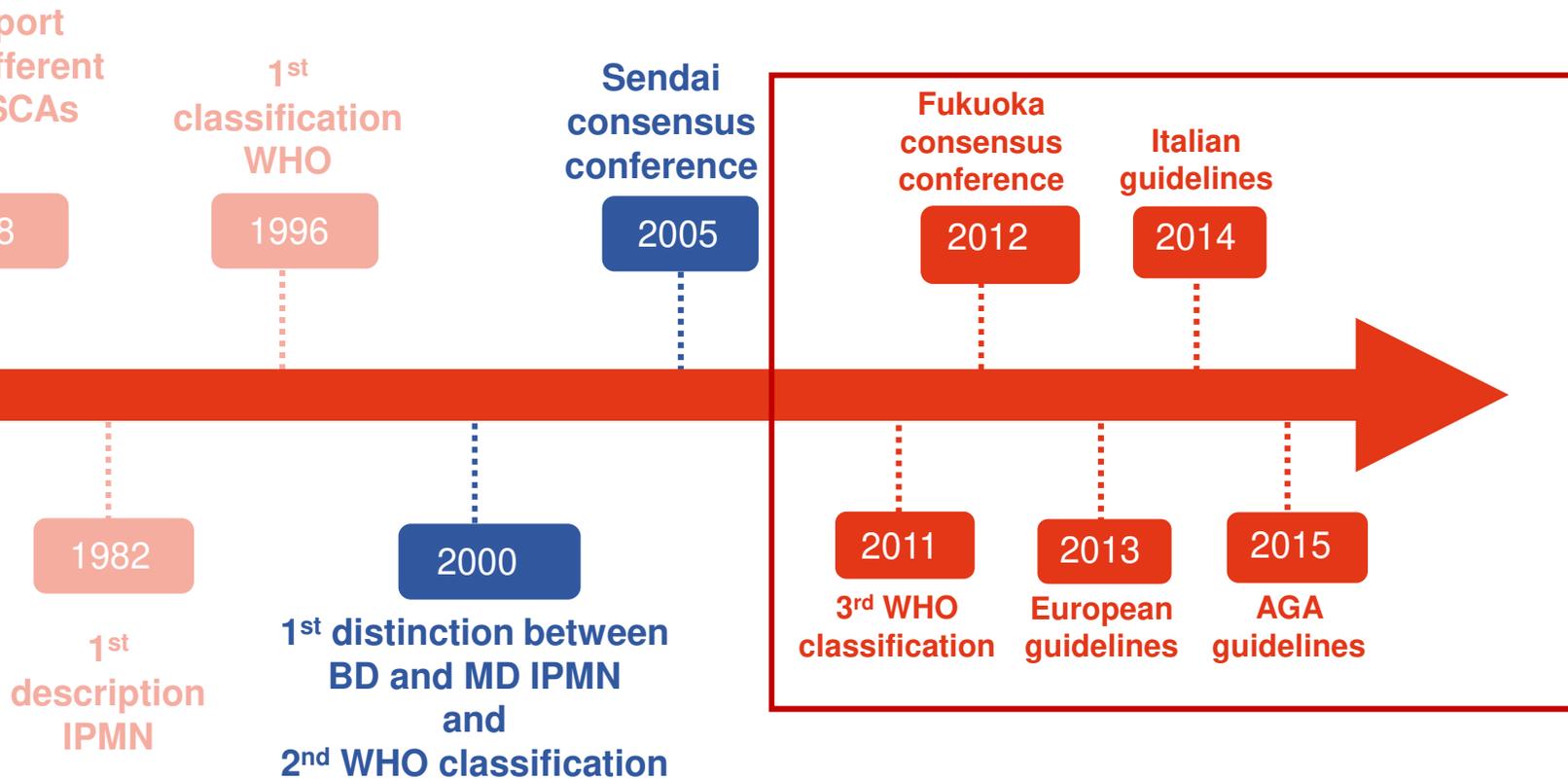
👁️ la sorveglianza attiva dovrebbe essere applicata con cautela

👶 1/3 degli IPMNs diventa cancro prima della resezione

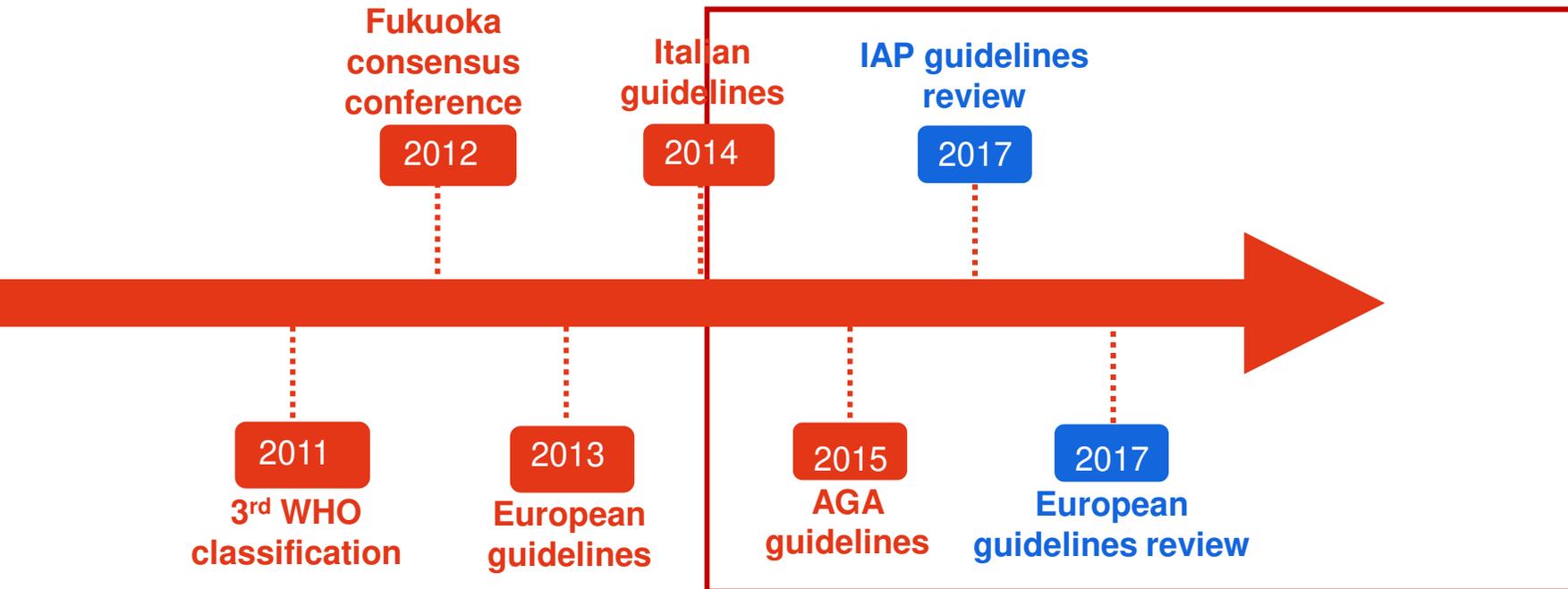
🔪 Rischi di mortalità e morbilità chirurgica sono giustificabili



Neoplasie Cistiche e linee guida



Neoplasie Cistiche e linee guida



Neoplasie Cistiche e linee guida

Le linee guida sono diffuse e usate come istruzioni e spesso applicate rigidamente nella pratica clinica

Ma ce ne sono molteplici e dobbiamo applicarle al caso specifico



Quale Linee Guida seguire?

Eterogeneità

Basso livello di evidenza

Basata sull'esperienza di esperti

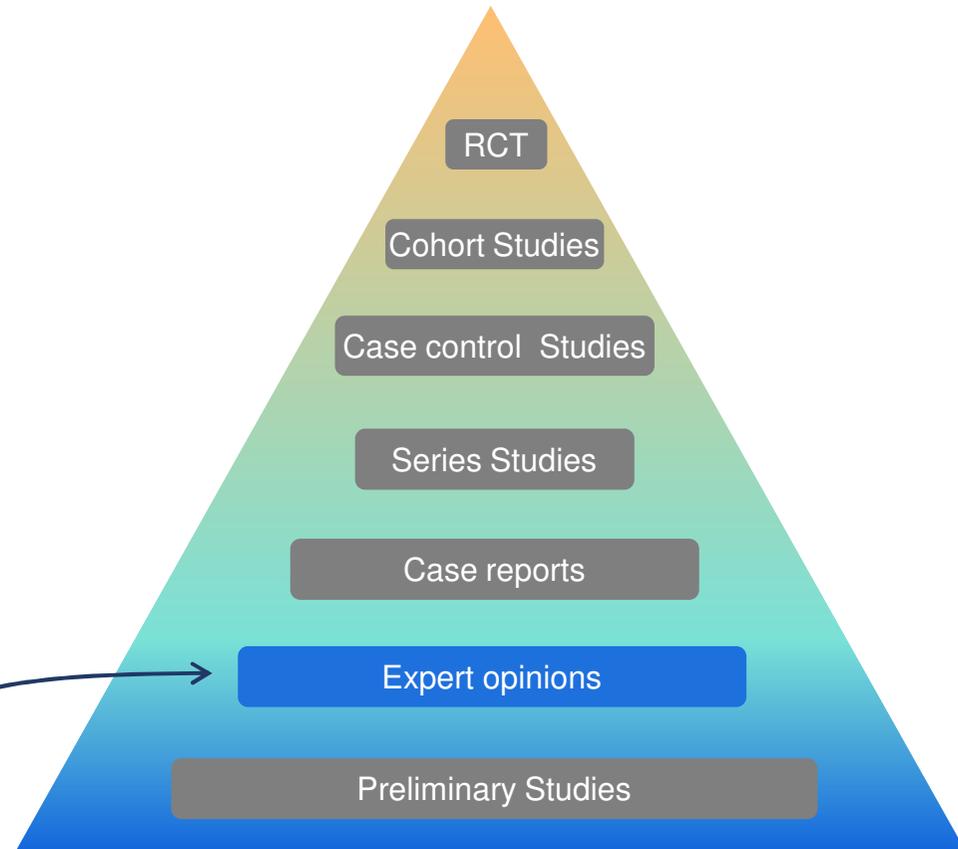
Bassa applicabilità clinica

Necessità di molti esami con **elevata frequenza**

Non considerare **variabilità individuale**

Basata su **serie chirurgiche**

Linee Guida



Update Guida IAP (2016)

Revisions of international consensus Fukuoka guidelines for the management of IPMN of the pancreas

Shohei Tanaka^{a,*}, Carlos Fernández-del Castillo^b, Terumi Kamisawa^c, Jin Young Jang^d,
Stephane Levy^e, Takao Ohtsuka^f, Roberto Salvia^g, Yasuhiro Shimizu^h, Minoru Tadaⁱ,
Christopher L. Wolfgang^j

Pancreatology 17 (2017) 738–753

WF Worrisome Features

Noduli murali ipervascolari (< 5mm)

Dotto Pancreatico Principale 5-9 mm

Elevati valori di Ca19.9

Crescita della cisti \geq 5mm/2years

Cisti >3 cm

Linfoadenopatie

Improvviso cambio di calibro del Wirsung

Pareti cistiche ipervascolarizzate

Pancreatiti

HRS High risk stigmata

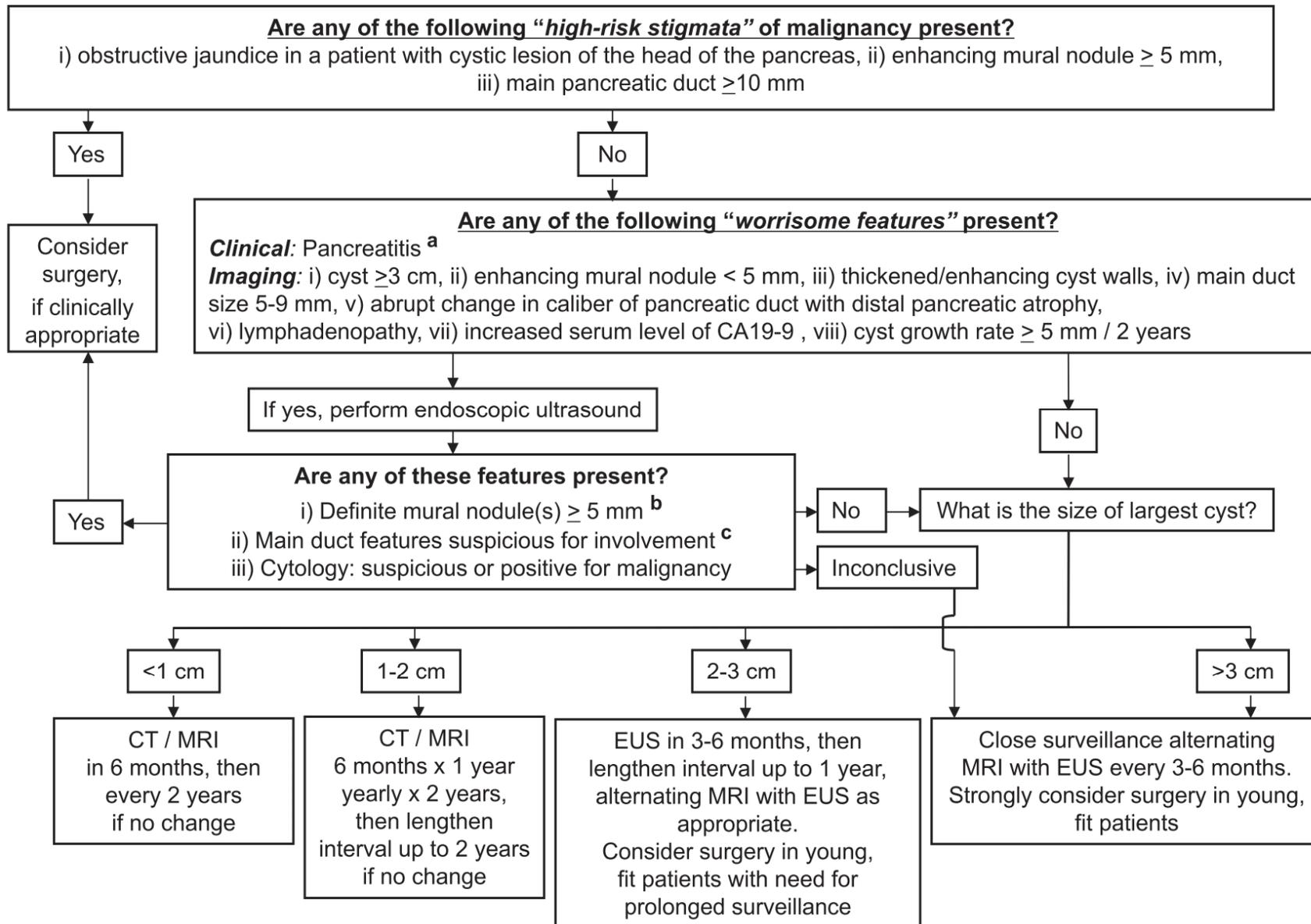
Noduli murali ipervascolari (>5mm)

Ittero Ostruttivo

Dotto Pancreatico Principale >10 mm

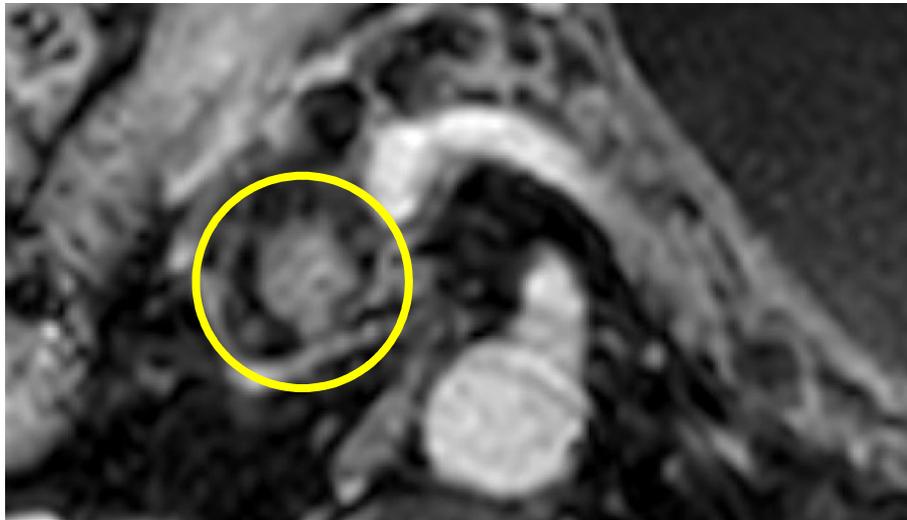
Recommendations of international consensus Fukuoka guidelines for the management of IPMN of the pancreas

Pancreatology 17 (2017) 738–753



la nostra policy:

Tra gli aspetti radiologici di un IPMN periferico le più rilevanti sono :



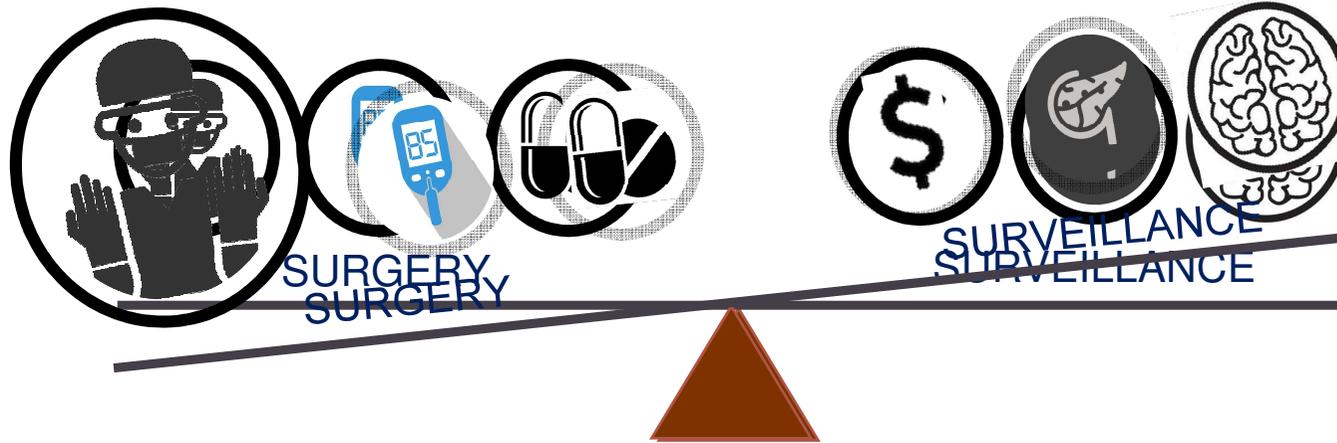
Noduli Murali



Systematic review, meta-analysis, and a high-volume center experience supporting the new role of mural nodules proposed by updated 2017 international guidelines on IPMN of the pancreas

Marchegiani et al, Surgery 2018

Complicanze postoperatorie dopo chirurgia pancreatica per MNs



Complicanze postoperatorie severe CD>3

Complicanze postoperatorie dopo chirurgia per IPMNs

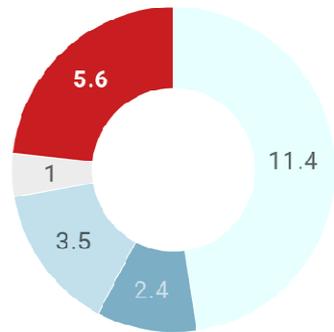


Outcomes for Intraductal Papillary Mucinous Neoplasms of the Pancreas: Preoperative Factors Tipping the Scale in Decision-Making

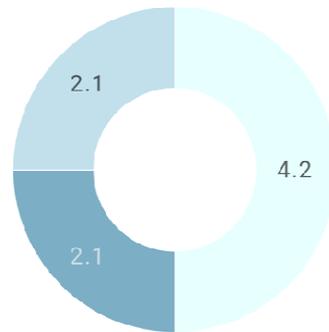
Marchegiani, MD, PhD¹, Stefano Crippa, MD, PhD², Giampaolo Perri, MD¹, Paola M. V. Rancoita, PhD³, Ravati, MD¹, Giulio Belfiori, MD², Tommaso Dall'Olio, MD¹, Francesca Aleotti, MD², Bertelli, MD, PhD², Claudio Bassi, MD¹, Massimo Falconi, MD², and Roberto Salvia, MD, PhD¹

Mortality

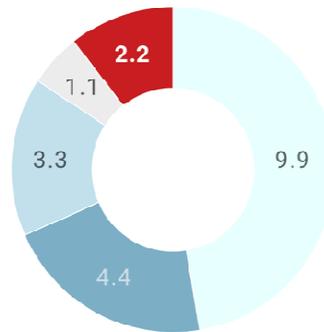
vien-Dindo IIIa
 vien-Dindo IIIb
 vien-Dindo IVa
 vien-Dindo IVb
 vien-Dindo V



Pancreaticoduodenectomy



Distal Pancreatectomy



Total Pancreatectomy

Risultati a lungo termine*

- **25.6%** comparsa Diabete
- **66.7%** peggioramento Diabete
- **36%** insufficienza esocrina

$p < 0.001$
 $p = 0.009$

* *Escludendo Pancreasectomie totali*

Come decidere il miglior trattamento?



Molti pazienti sono **asintomatici**

Il tempo di generazione è **sconosciuto**

L'aggressività biologica è **differente**

Carico psicologico

Chirurgia con molte **complicanze**

La chirurgia ha **mortalità**

Diabete postoperatorio

Follow-up ad alti **costi**

Quando interrompere il FU? Le CISTI TRIVIALI

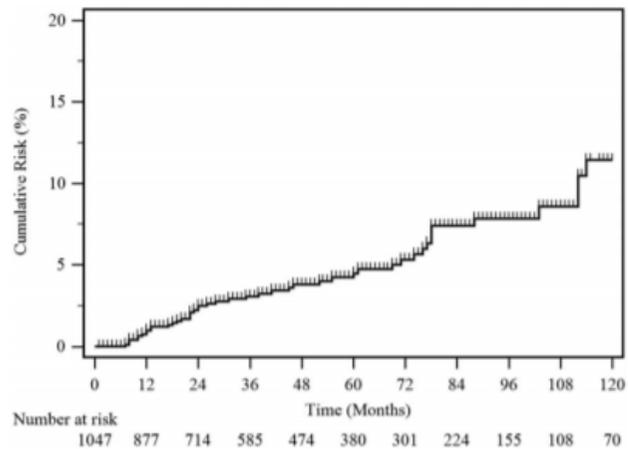


Figure 2. Kaplan-Meier curve depicting the cumulative risk of developing WF/HRS during follow-up for presumed BD-IPMN.

“Trivial” Cysts Redefine the Risk of Cancer in Presumed Branch-Duct Intraductal Papillary Mucinous Neoplasms of the Pancreas: A Potential Target for Follow-Up Discontinuation?

Giovanni Marchegiani, MD, PhD¹, Stefano Andrianello, MD¹, Tommaso Pollini, MD¹, Andrea Caravati, MD¹, Marco Biancotto, MD¹, Erica Secchettin, MD¹, Deborah Bonamini, MD¹, Giuseppe Malleo, MD, PhD¹, Claudio Bassi, MD¹ and Roberto Salvia, MD, PhD¹

American Journal of Gastroenterology 2019

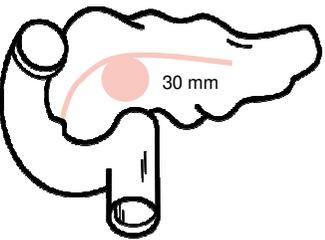
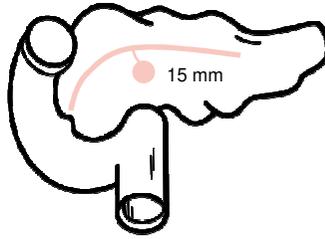
1036 PMN periferici senza WF/HRS

- 4.2% sviluppa WF/HRS
- 1.1% sviluppa CANCRO
- 0 mm/anno di crescita media
- Over 65y/o **non significativa crescita** di rischio di sviluppare cancro nelle cisti Triviali comparati alla popolazione generale di pari età



Triviali = BD-IPMN senza WF/HRS dopo 5 anni di sorveglianza



	SIZE AFTER 5 YEARS		AGE
Trivial cyst		NO WF or HRS for the first 5 years of surveillance	 75 y/o or older
Trivial cyst < 15 mm			 65 y/o or older

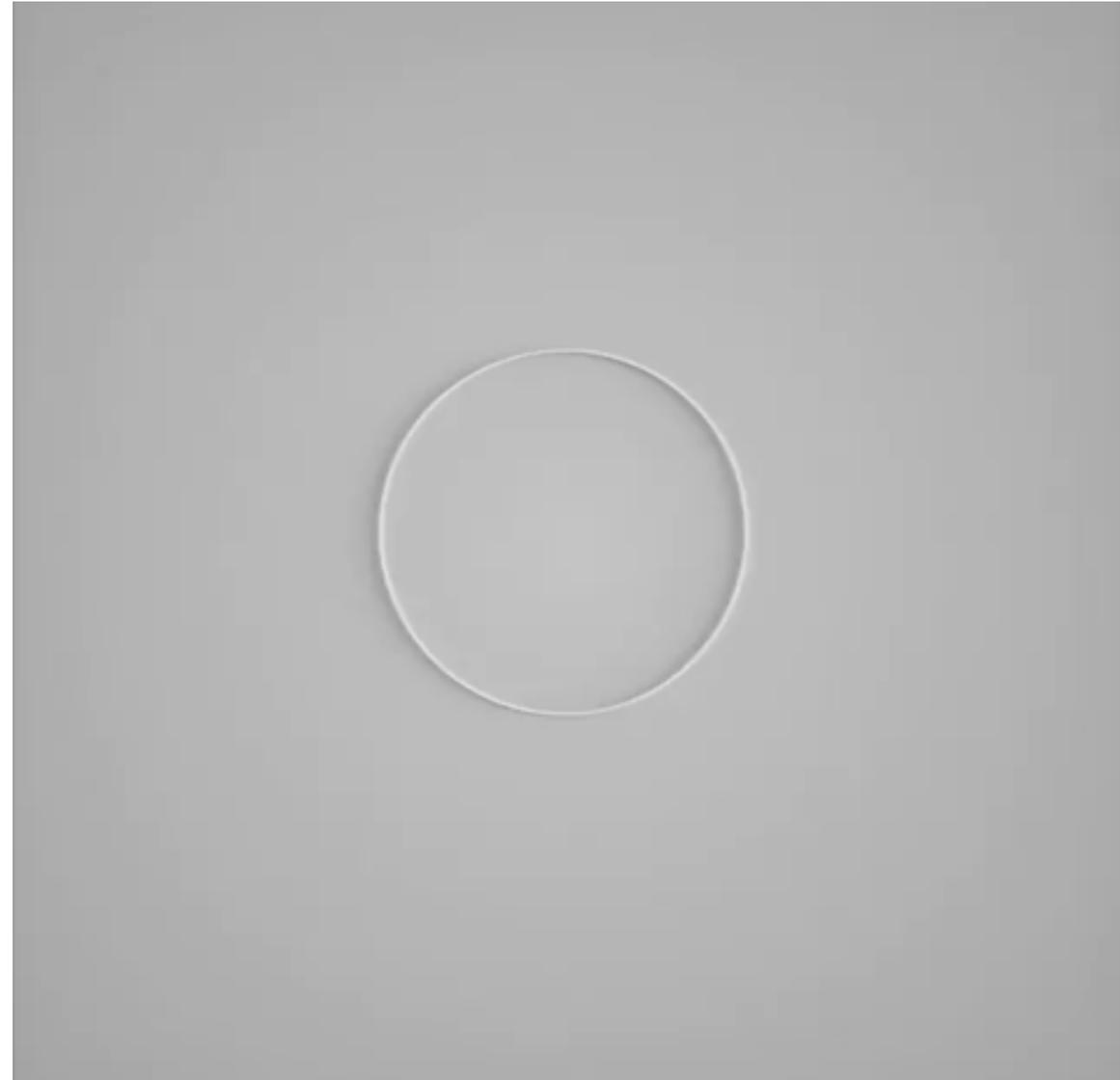
**CONSIDERARE DI
INTERROMPERE LA
SORVEGLIANZA**



Conclusioni

Patologia cistica del pancreas è argomento emergente, caldo, e complesso

Piuttosto della singola osservazione, l'evoluzione nel tempo può indirizzare il percorso diagnostico terapeutico

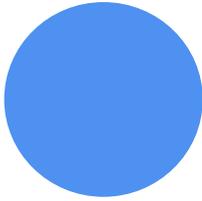


Conclusioni

una valutazione specialistica alla
diagnosi con CW- RM mdc, CEA e
CA 19-9 almeno per lesioni >5 mm
sospettabile e non
definitiva

In presenza di elementi di sospetto
il follow up va eseguito con esami
riproducibili, confrontabili e con
mdc (CW-RM mdc)

Valutare discontinuità dei controlli non prima
dei 5 anni e solo in casi selezionati



Thank
you!



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