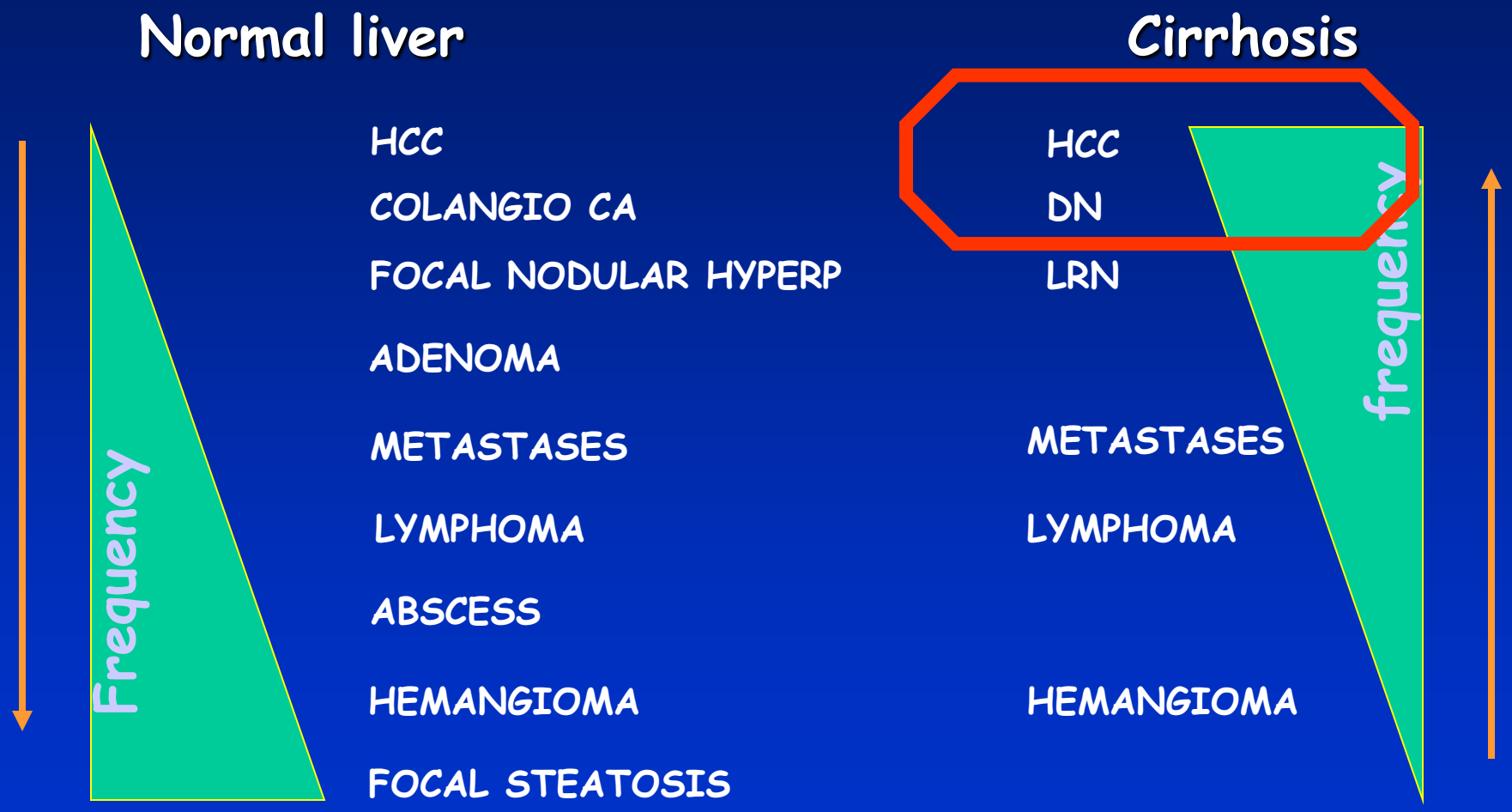
Oncologia epato-bilio-pancreatica,
Monza, 6 Maggio 2011

Luca Di Tommaso MD

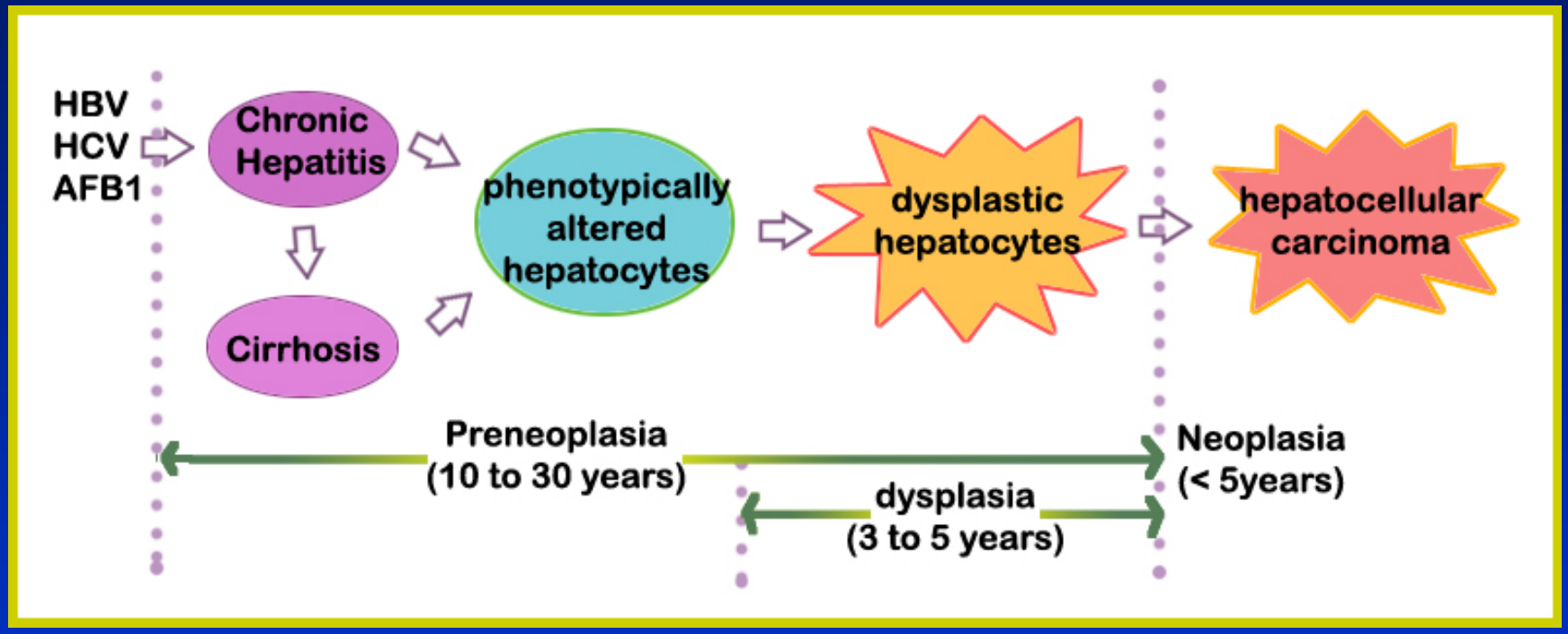
La diagnosi istologica delle lesioni epatiche

University of Milan and IRCCS Istituto Clinico Humanitas, Rozzano, Milan

Different focal lesions according to liver background



Human hepatocarcinogenesis is multistep and takes time



Thorgeirsson SS, Grisham JW. Nat Genet 2002;31:339-346

Hepatology 2009; 49: 658-664

SPECIAL ARTICLE

Pathologic Diagnosis of Early Hepatocellular Carcinoma: A Report of the International Consensus Group for Hepatocellular Neoplasia

International Consensus Group for Hepatocellular Neoplasia

See Editorial on Page 355

Advances in imaging techniques and establishment of surveillance protocols for high-risk populations have led to the detection of small hepatic nodules

chronic liver disease into large regenerative nodule, low-grade dysplastic nodule (L-DN), high-grade dysplastic nodule (H-DN), and HCC; this nomenclature has been

Editorial by J Desmet

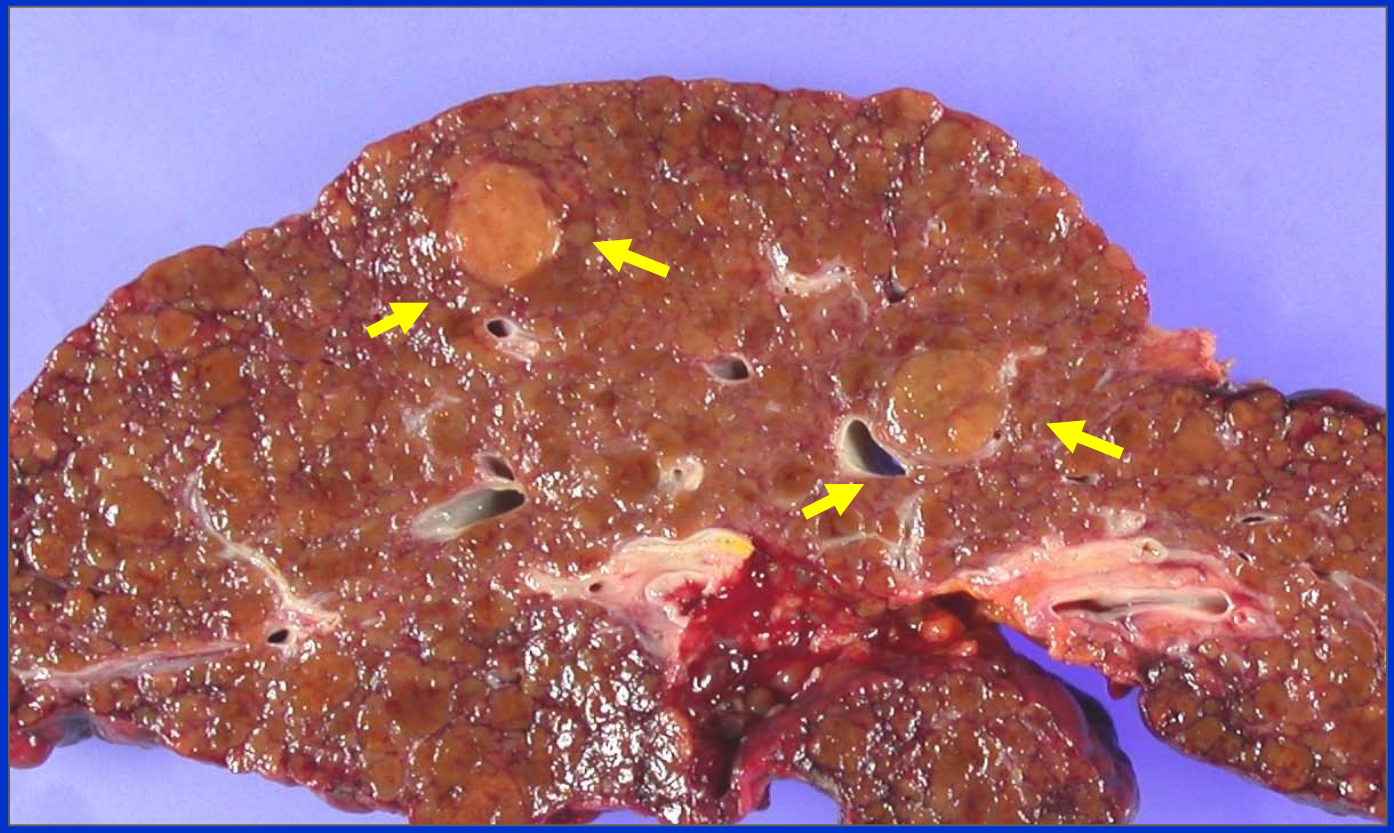
East–West Pathology Agreement on Precancerous Liver Lesions and Early Hepatocellular Carcinoma

See Article on Page 658

The notion of cancer development as a multistep process, recognized in experimental liver carcinogenesis in rats,[1] also applies to human hepatocel-

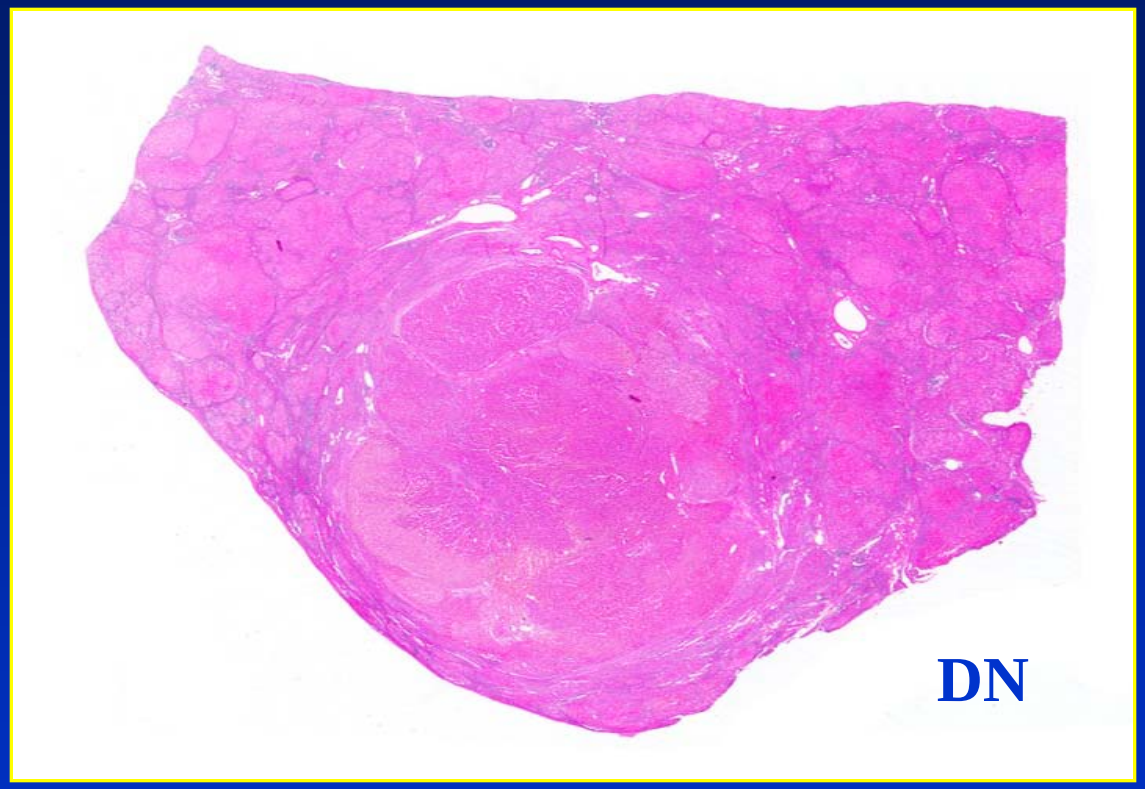
be confused with large regenerative nodules, corresponding to nodules of ≥5 mm in diameter, larger than surrounding cirrhotic nodules, without atypia, and with no link to neoplasia. In contrast, HGDNs carry a worse prognosis with a four-fold risk of HCC development. They are characterized by clearly higher cell density than that of

Dysplastic nodule



- Small sized (0,5-2 cm) grossly distinct nodule,
- 15 ~ 25% nodules in the cirrhotic liver under surveillance

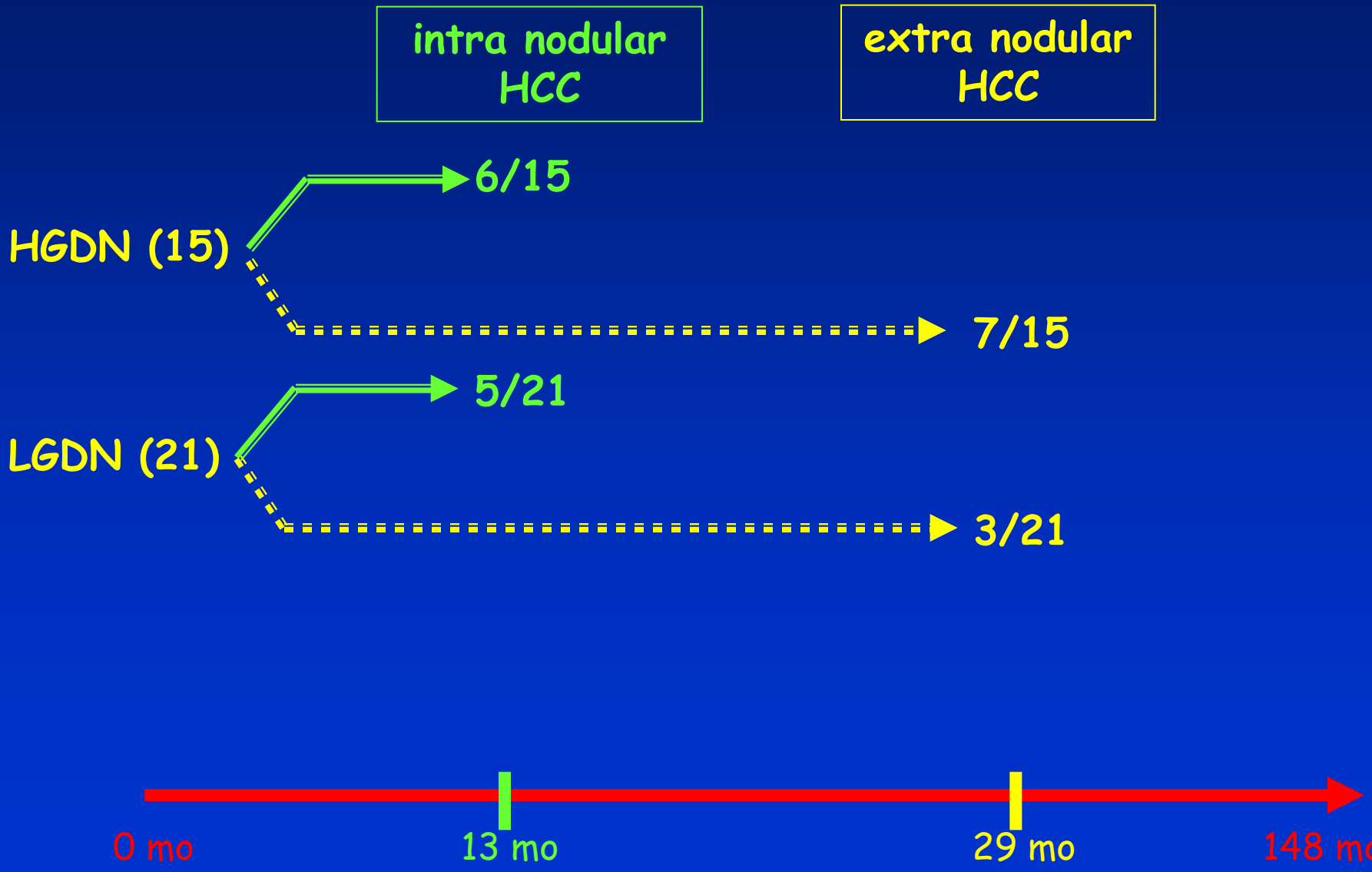
High grade Dysplastic Nodule



…showing a certain degree of cytological and architectural atypia but insufficient for a diagnosis of malignancy

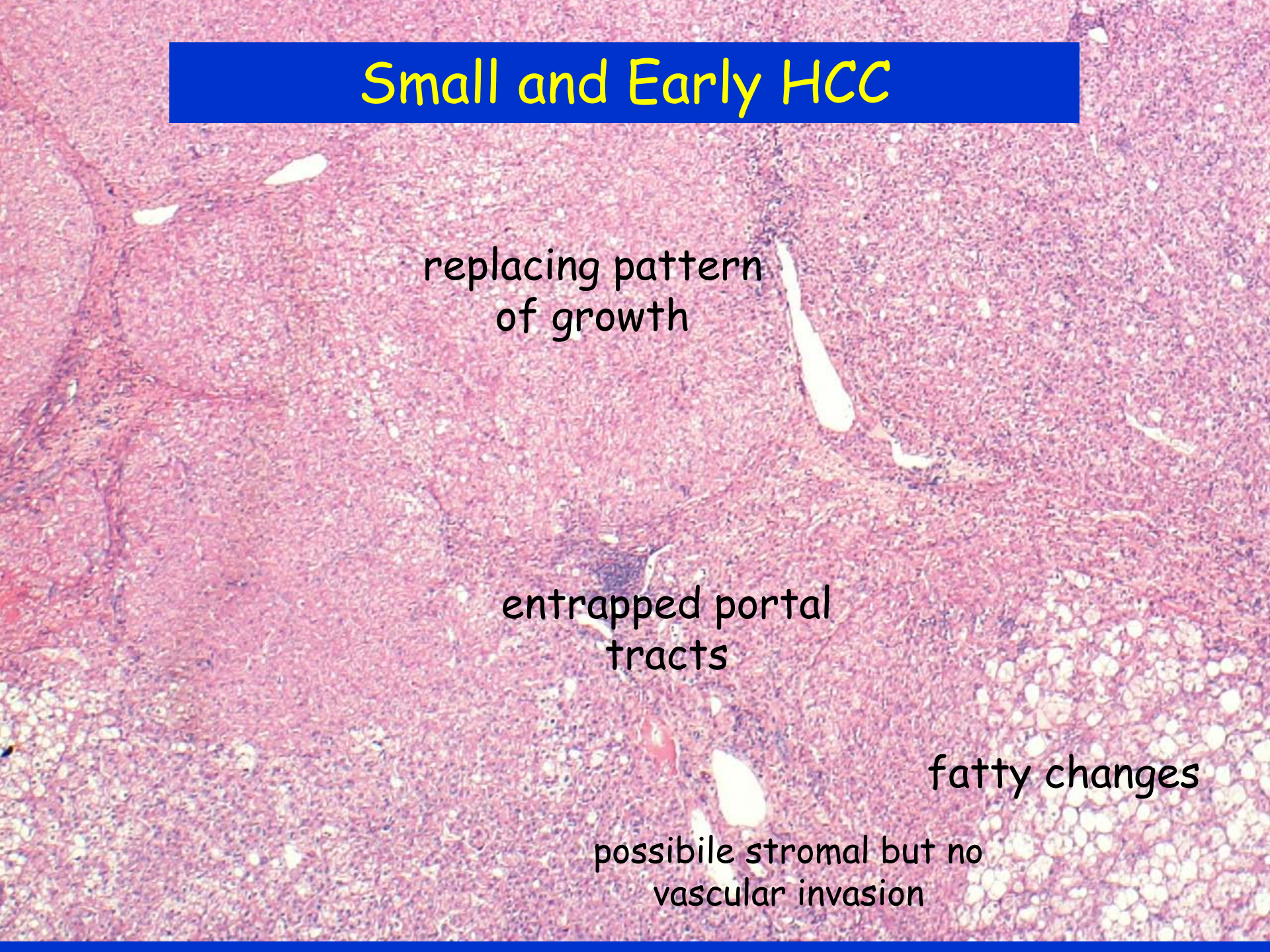
INCIDENCE & INCUBATION OF HCC IN pts WITH DN

(Iavarone et al, personal comunication)



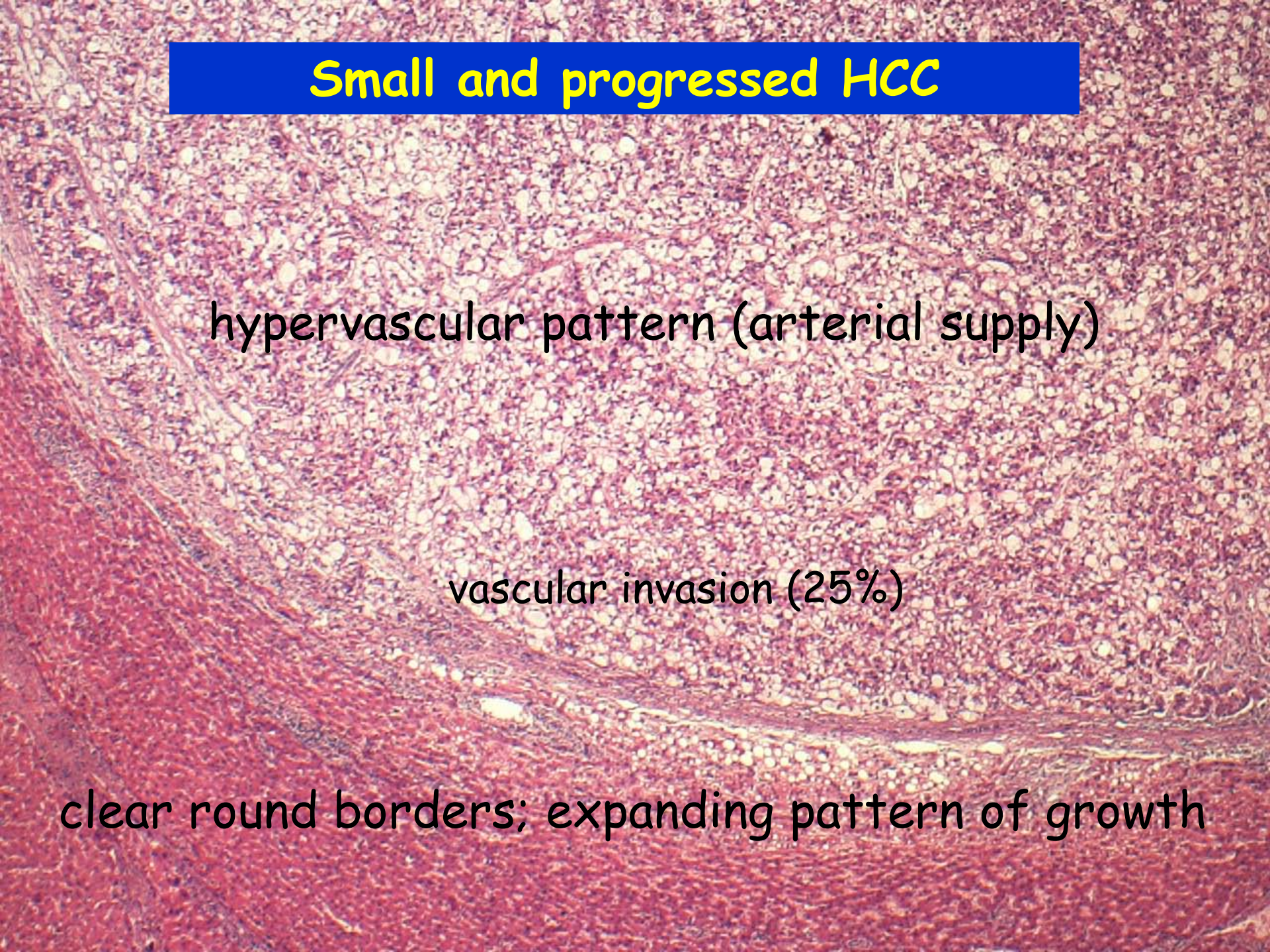
Small (<2 cm.), early HCC

Small and Early HCC



Small (< 2cm) and progressed HCC

Small and progressed HCC



hypervascular pattern (arterial supply)

vascular invasion (25%)

clear round borders; expanding pattern of growth

Clinical outcome of small HCC after surgical treatment

early *vs.* progressed

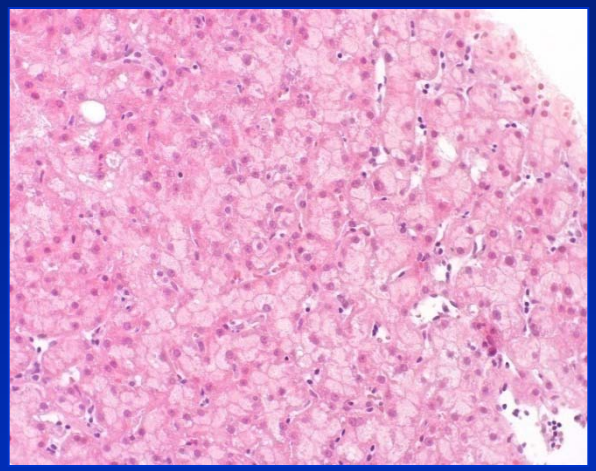
	Early type	Progressed type
Average time to recurrence	3.9 yrs	1.7 yrs
5 year-survival	89 %	48 %

Takayama T, Makuuchi M et al. Hepatology 1998

Courtesy from

M Kojiro (modified)

Small HN, with not conclusive imaging



Uncertain for malignancy

□

HGDN/eHCC

Check malignancy by a biomarkers panel

ELSEVIER

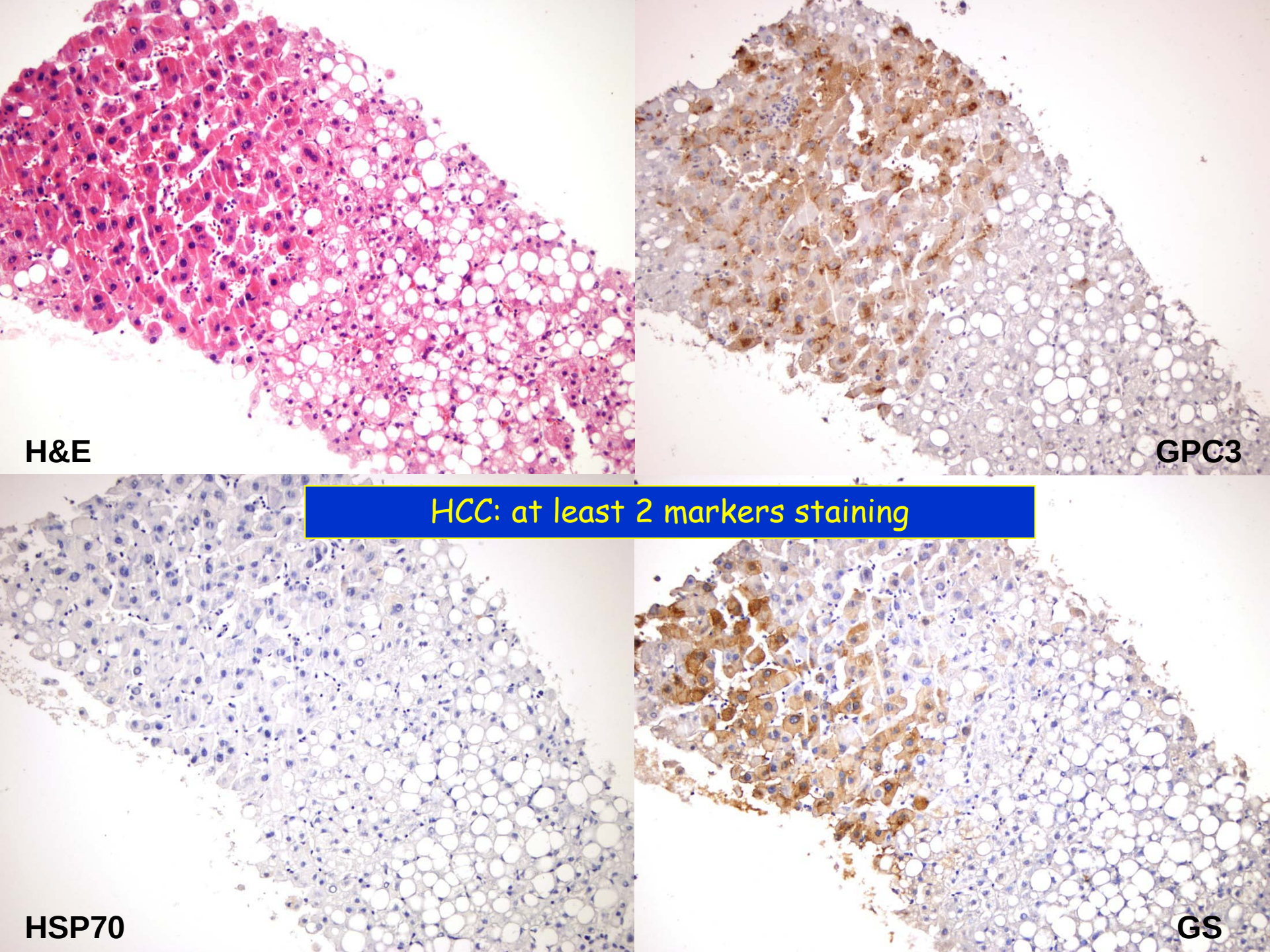
Journal of Hepatology 50 (2009) 746–754

Journal of Hepatology

www.elsevier.com/locate/jhep

The application of markers (HSP70 GPC3 and GS) in liver biopsies is useful for detection of hepatocellular carcinoma☆

Luca Di Tommaso[1], Annarita Destro[2,†], Jae Yeon Seok[3,†], Emanuela Balladore[2], Luigi Terracciano[4], Angelo Sangiovanni[5], Massimo Iavarone[5], Massimo Colombo[5], Ja June Jang[6], Eunsil Yu[7], So Young Jin[8], Emanuela Morenghi[9], Young Nyun Park[3,10,*], Massimo Roncalli[1,2,*]

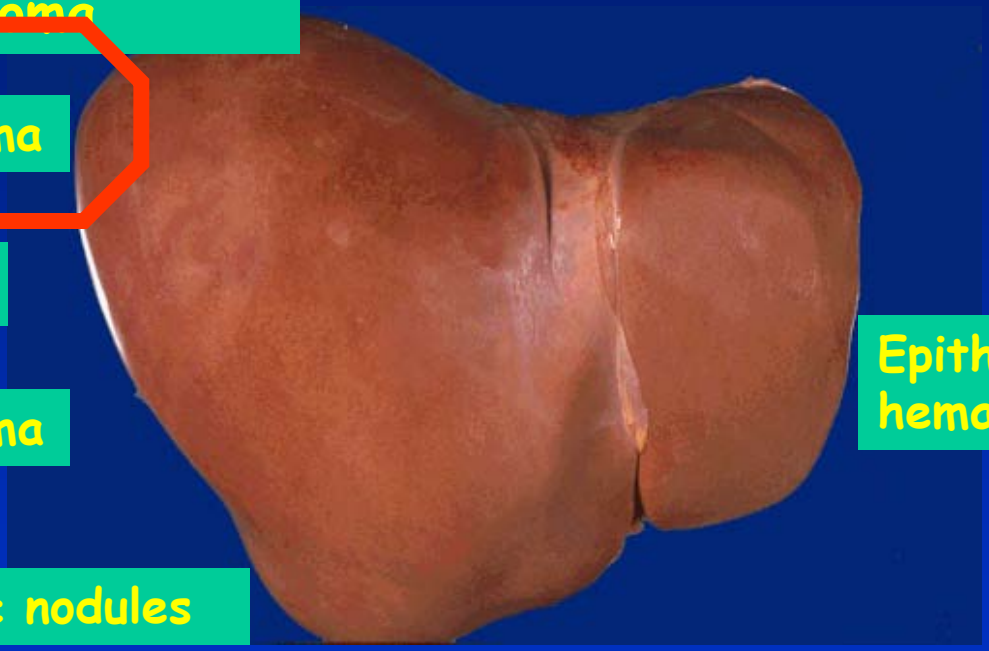

H&E
GPC3
HCC: at least 2 markers staining
HSP70
GS

Focal liver lesions in non hepatitic normal liver

Hepatocellular carcinoma

Metastatic liver tumors

Liver cell adenoma



Angiomyolipoma

Hemangioma

Epithelioid hemangioendothelioma

Bile duct adenoma

Angiosarcoma

Solitary necrotic nodules

Inflammatory pseudotumor

Focal nodular hyperplasia

Genotype–Phenotype Correlation in Hepatocellular Adenoma: New Classification and Relationship With HCC

Zuckman Rossi J et al Hepatology 2006; 43:515-524

Hepatocellular Adenoma Subtype Classification Using Molecular Markers and Immunohistochemistry

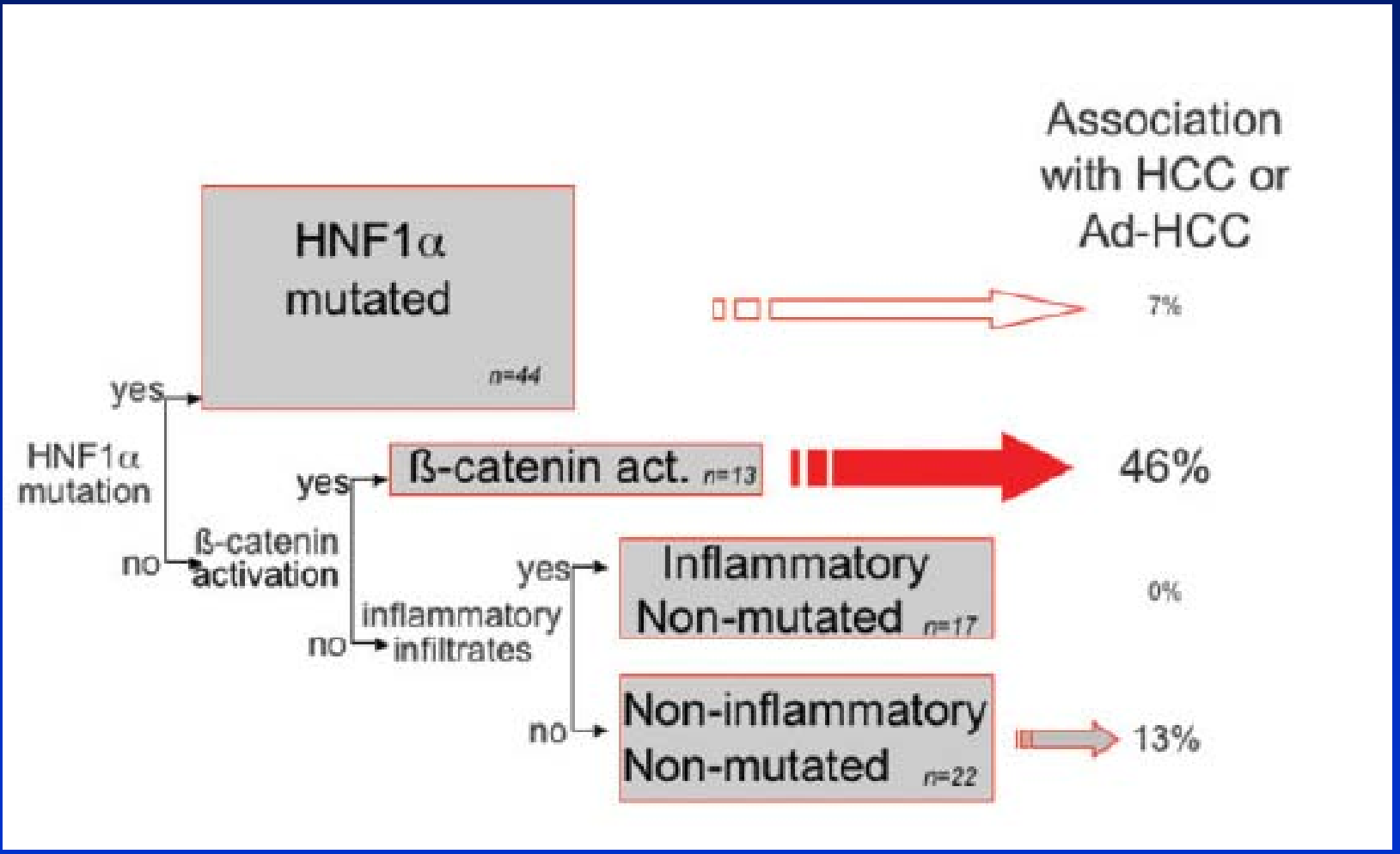
Bioulac-Sage *et al.* Hepatology 2007; 46:740-748

HEPATOCELLULAR ADENOMA

Type of Adenoma	Histology	Immunohistochemistry
a) Steatotic	marked steatosis,	all negative
b) Atypical,	focal atypia	β catenin & GS positive
c) Teleang/inflamm	infl+vess+duct	SAA positive
d) No specific trait		LFAB-P positive

Bioulac-Sage et al. Hepathology 2007

RISK OF MALIGNANT TRANSFORMATION

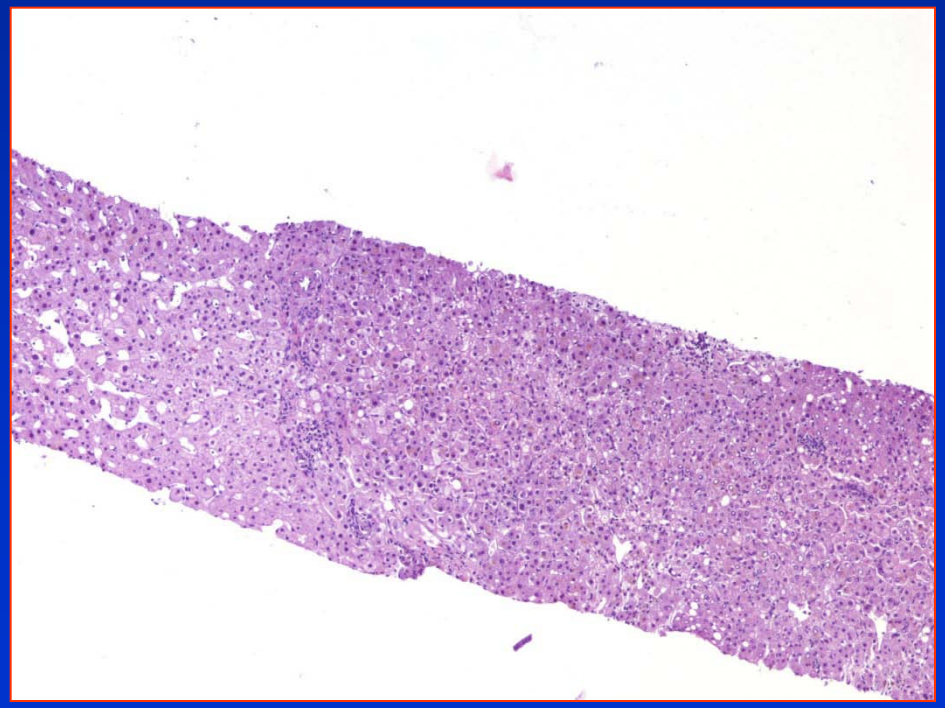


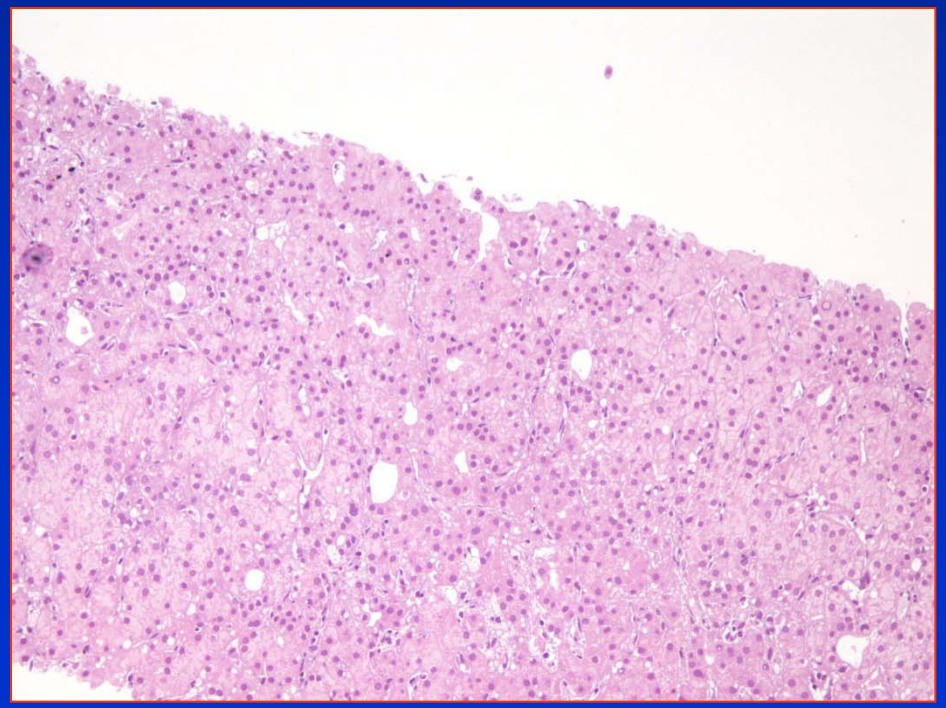
Zucman-Rossi et al. Hepathology 2006

Single HN, no cirrhosis

HISTOLOGICAL TYPE

RISK OF MALIGNAT TRANSFORMATION





Focal liver lesions in non hepatitic normal liver

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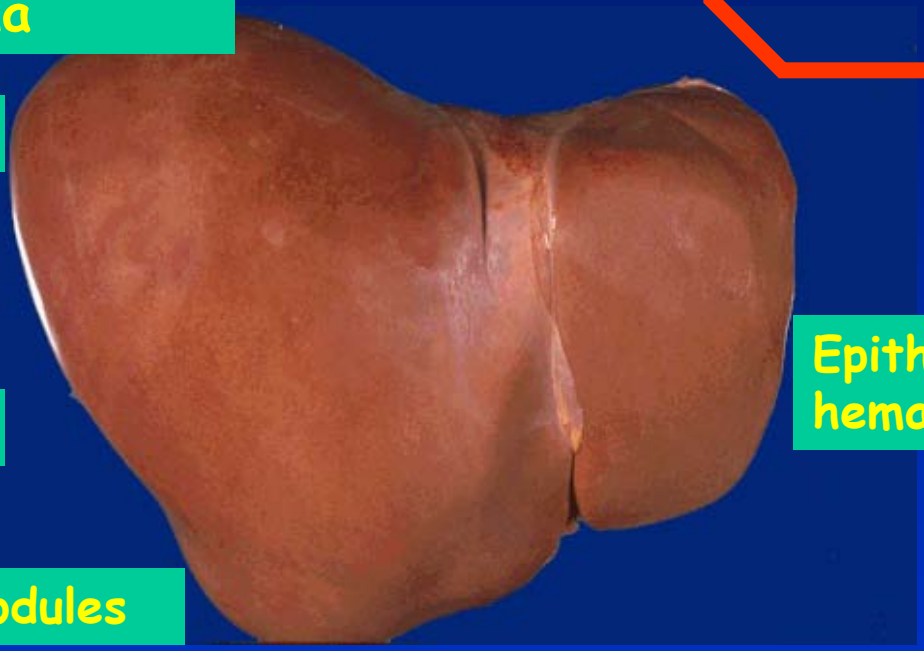
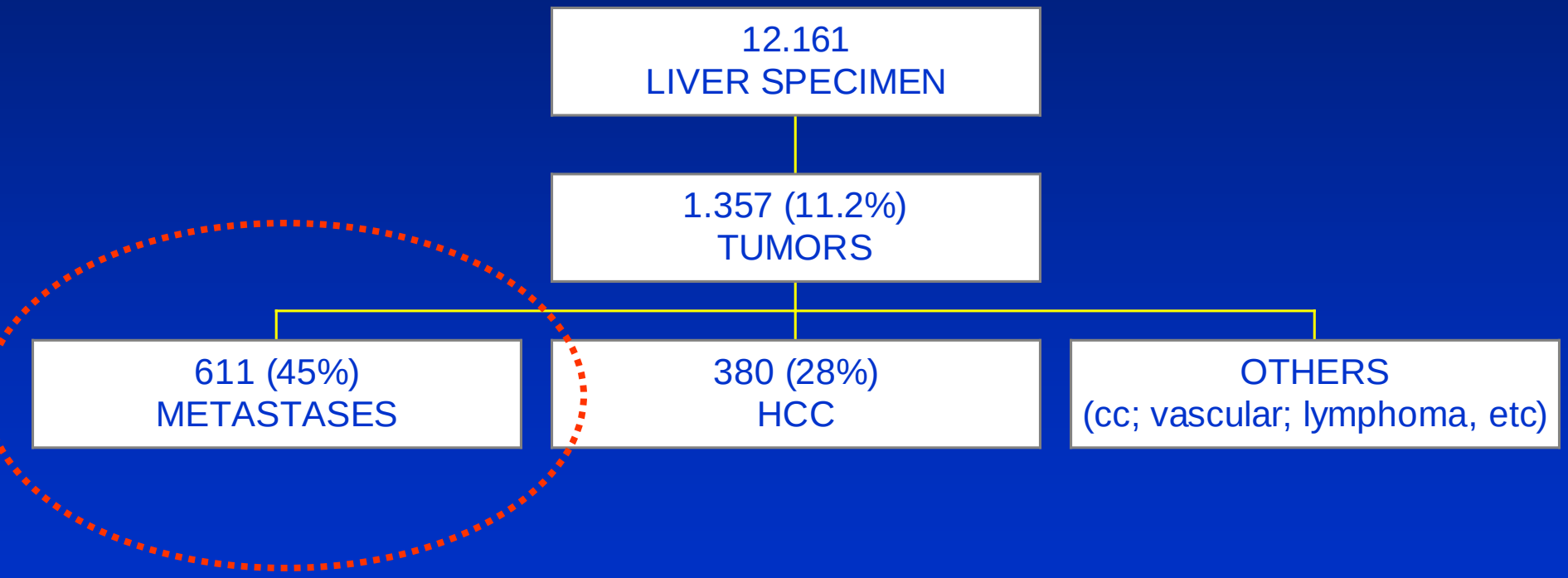
Solitary necrotic nodules



Inflammatory pseudotumor

Focal nodular hyperplasia

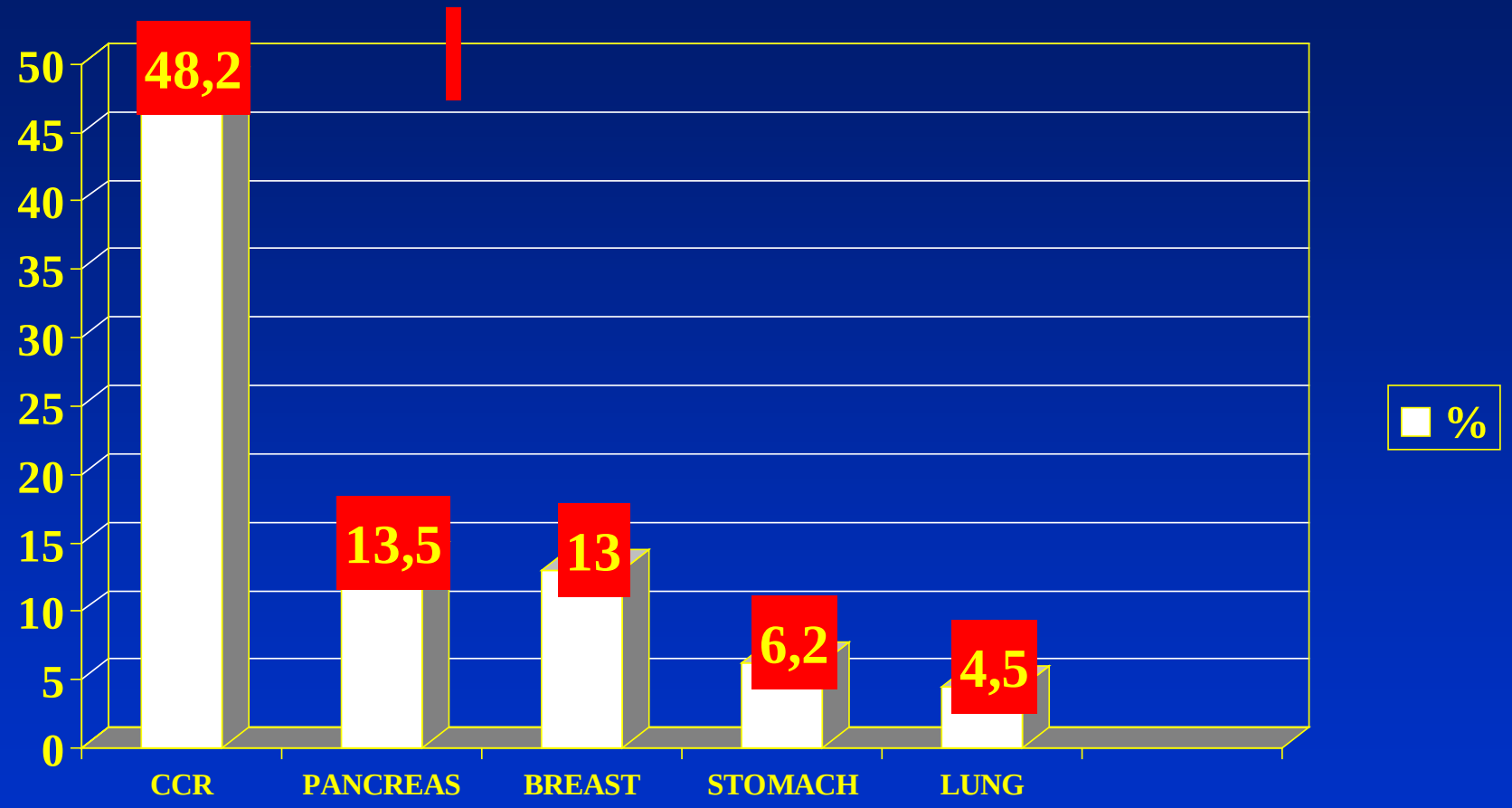
LIVER METASTASES: PREVALENCE



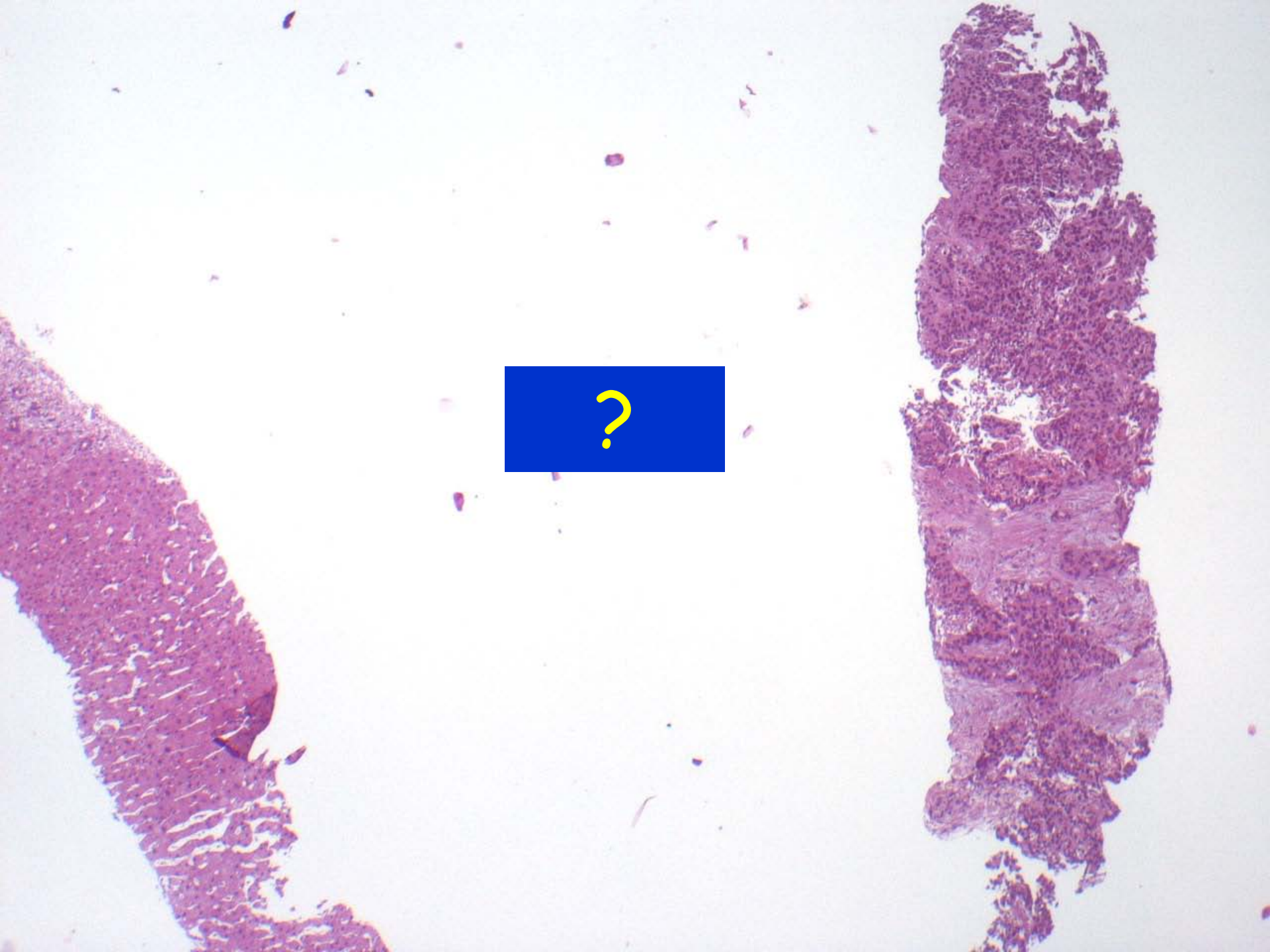
(unknown primary: 3%)

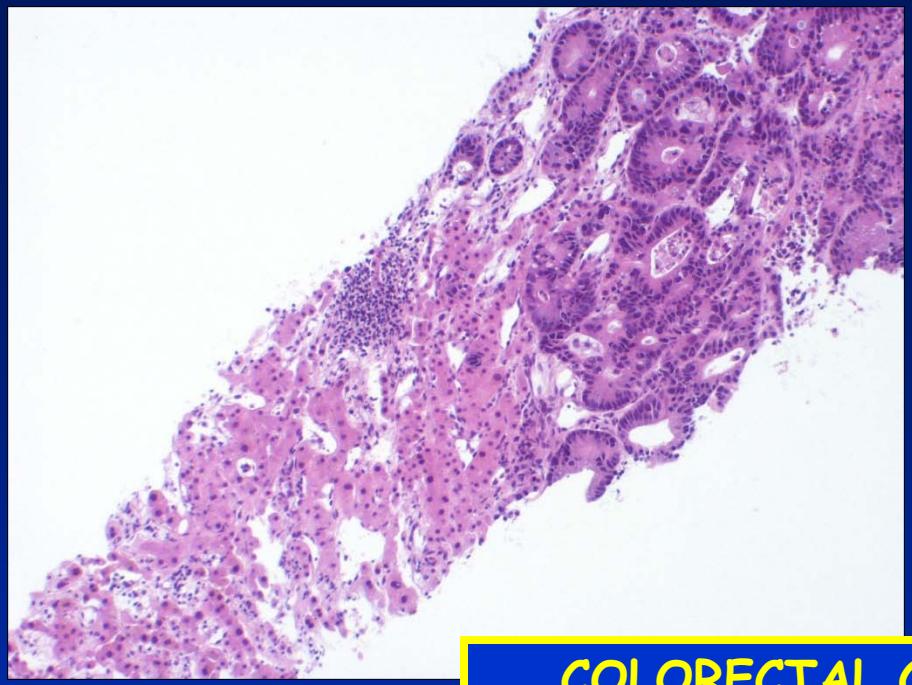
Kaspar HU et al. Z Gastroenterol 2005

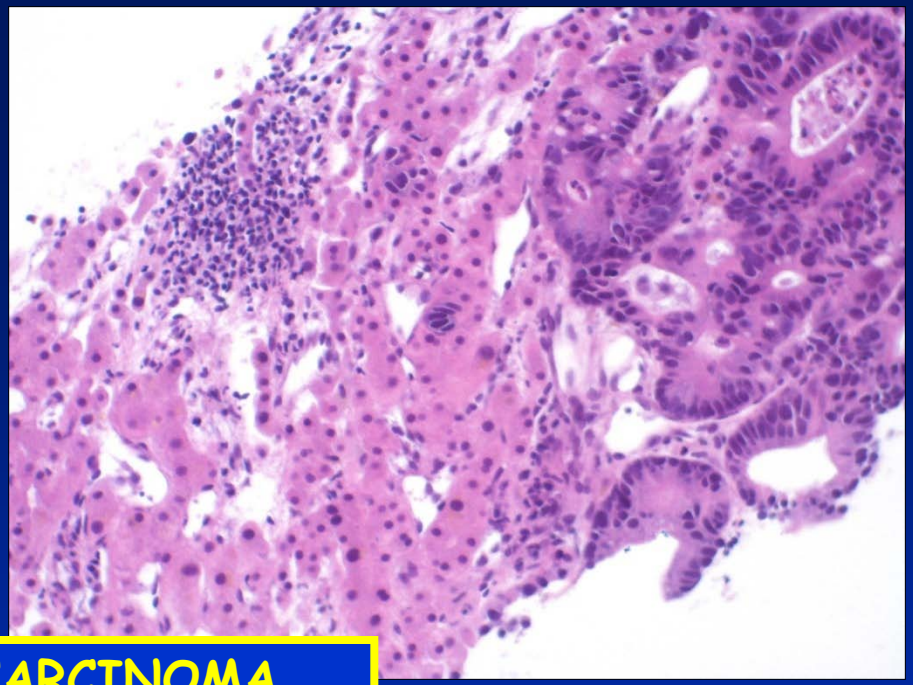
LIVER METASTASES, HISTOTYPE



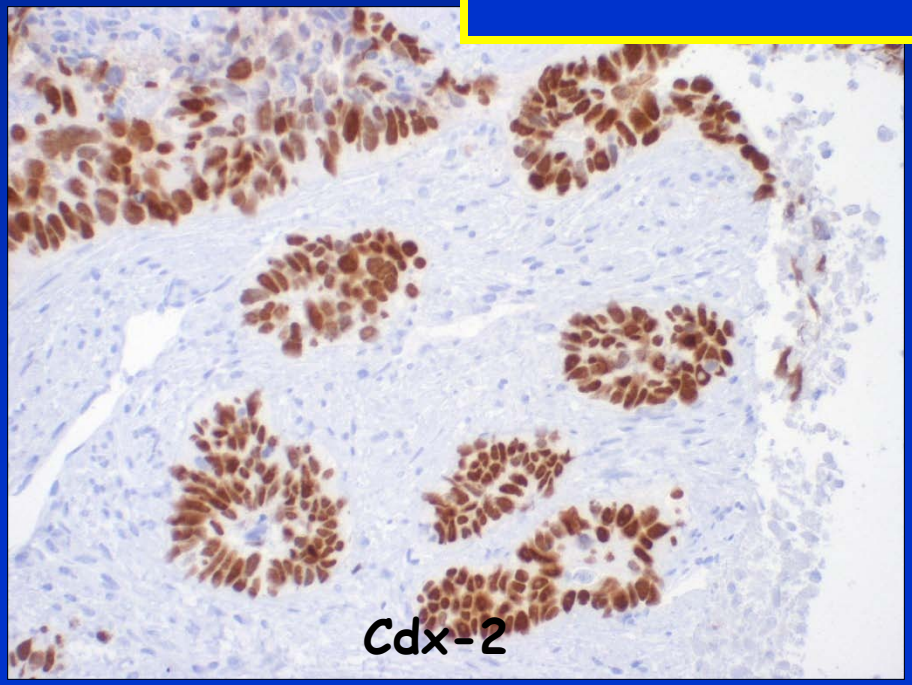
Kaspar HU et al. Z Gastroenterol 2005



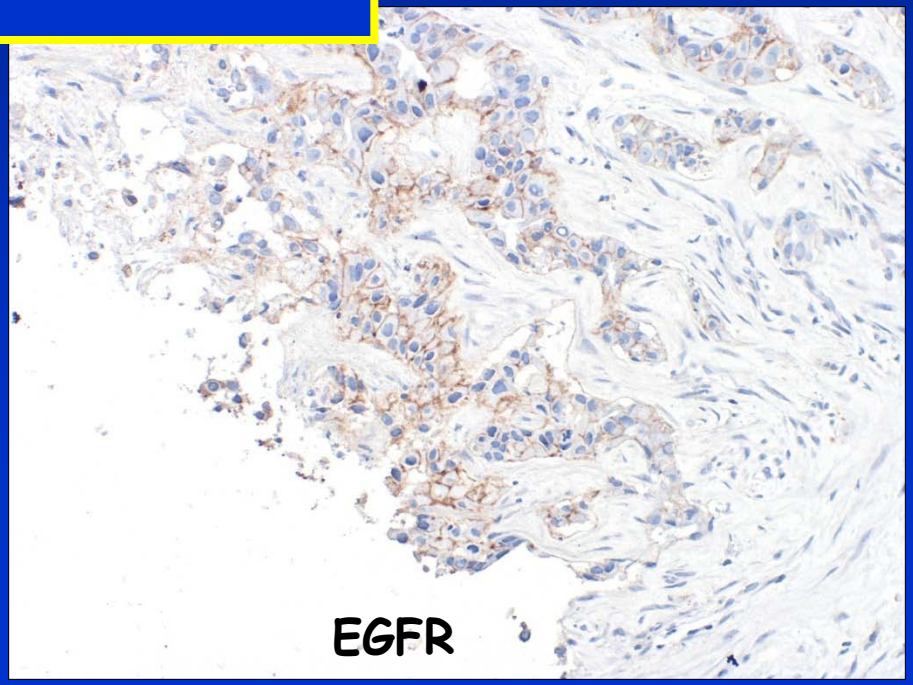




COLORECTAL CARCINOMA

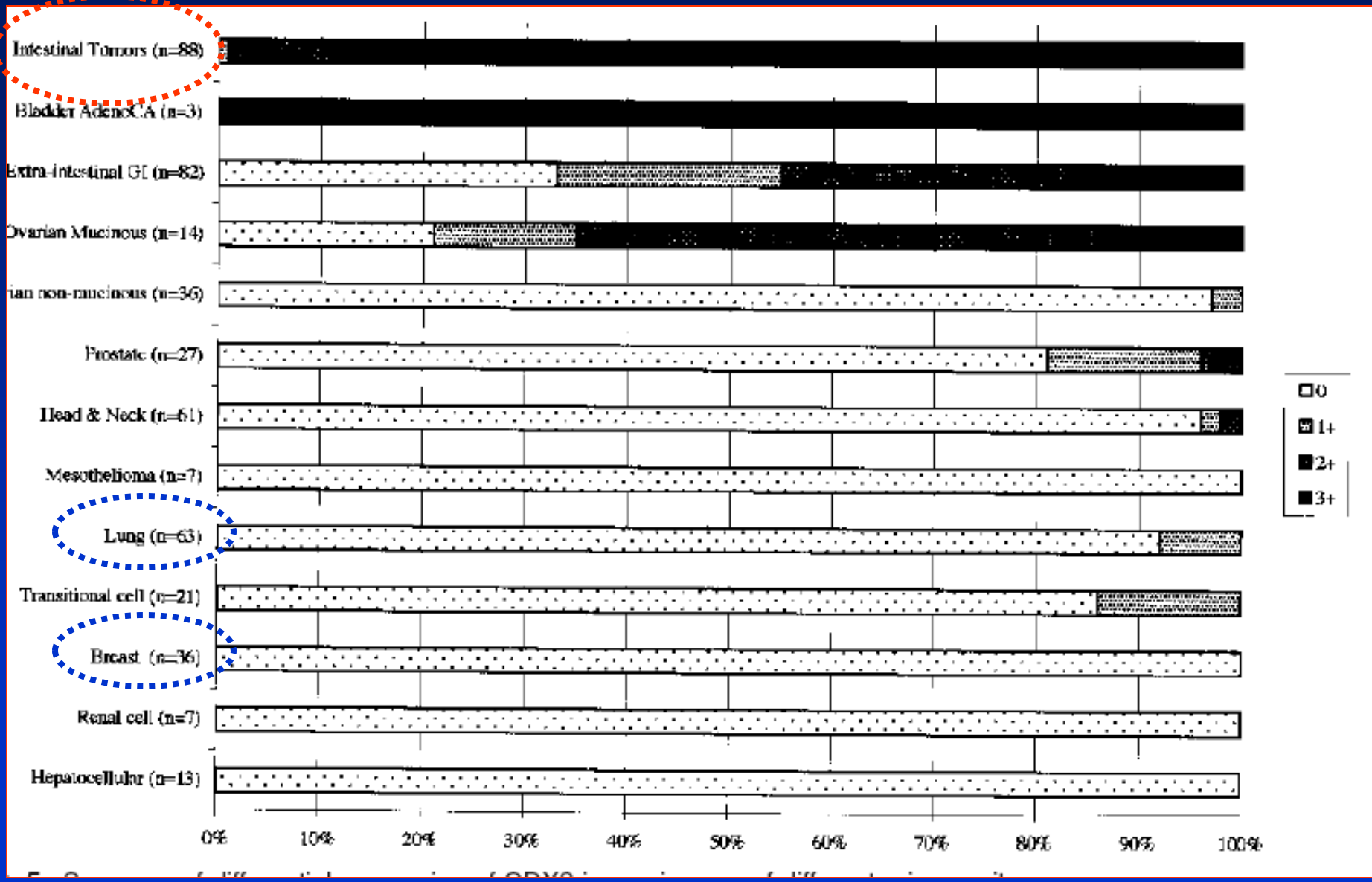


Cdx-2

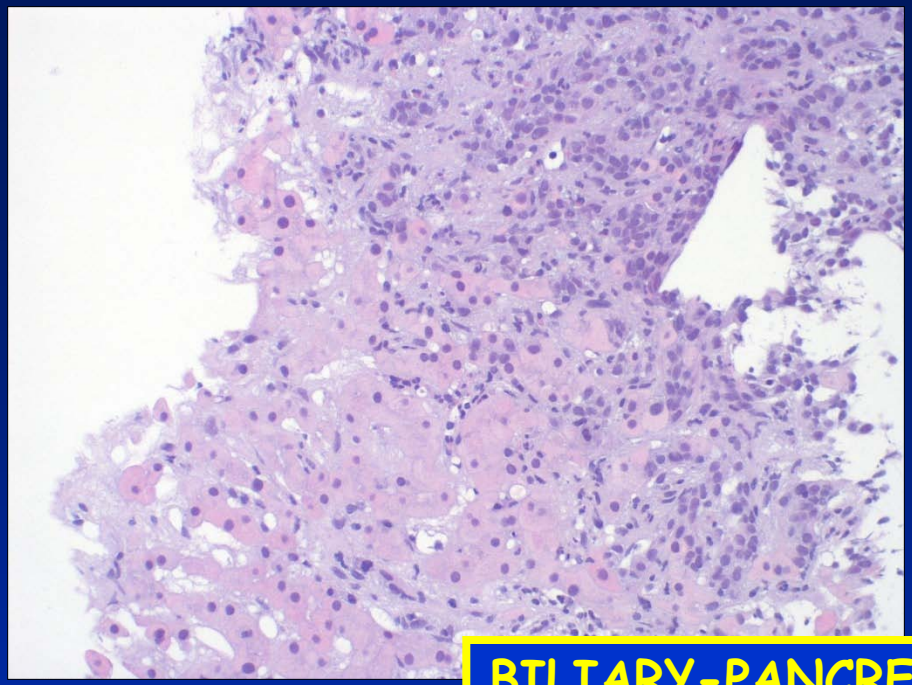


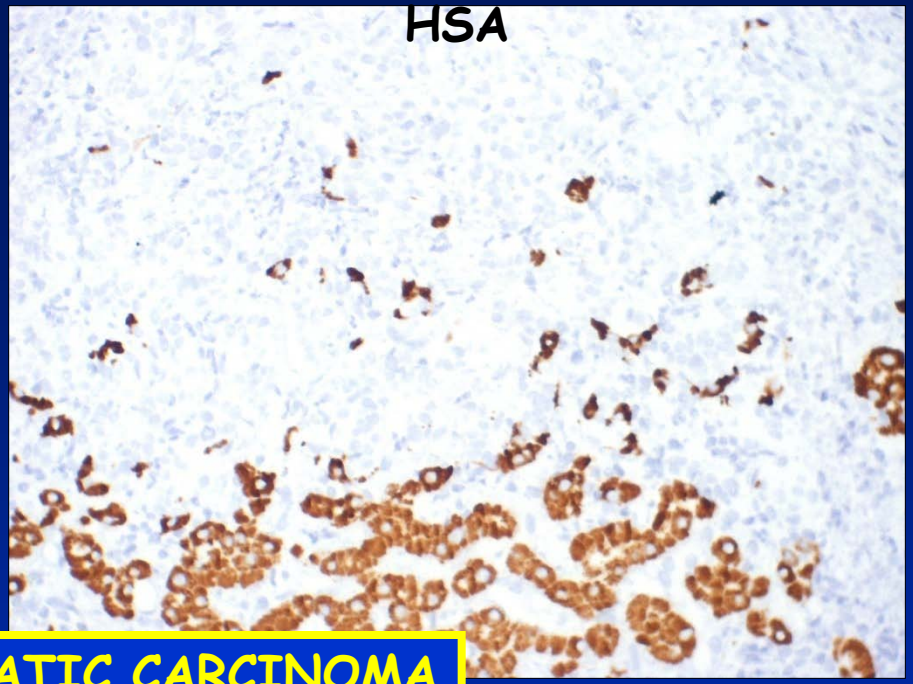
EGFR

CDX-2

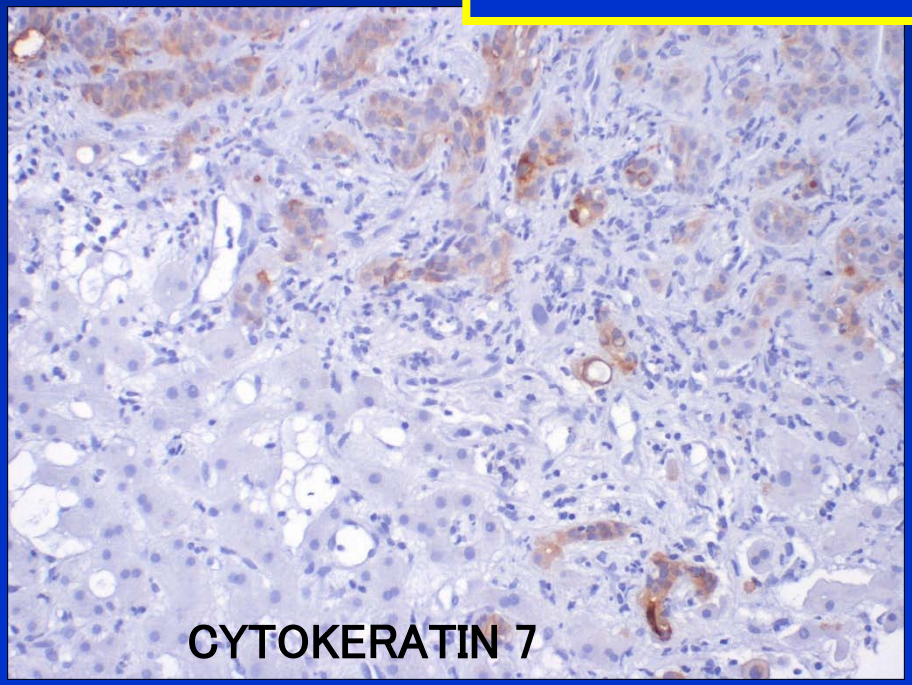


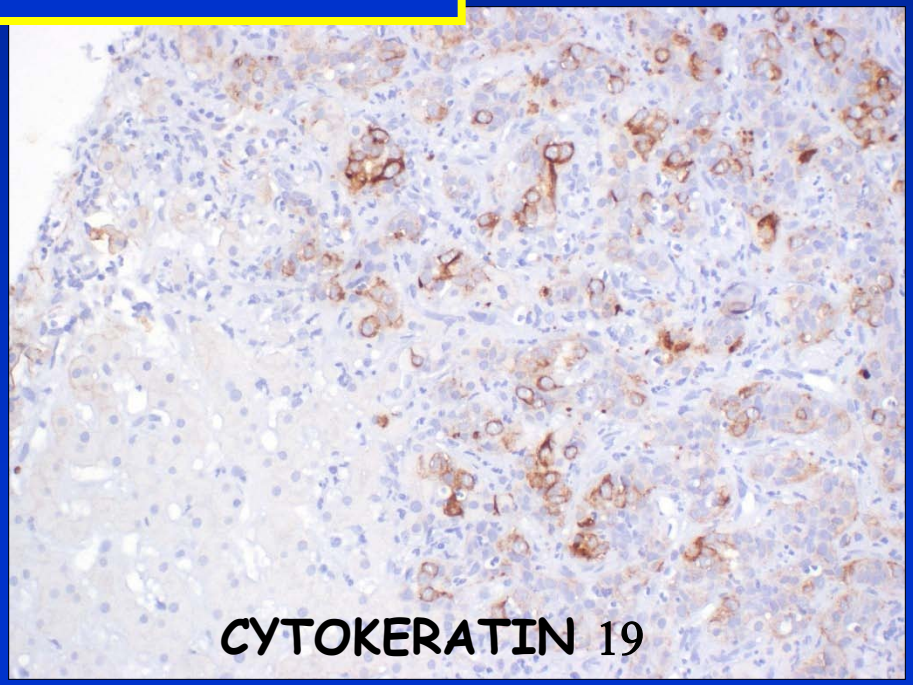
Werling RW et al. Am J Surg Pathol 2003



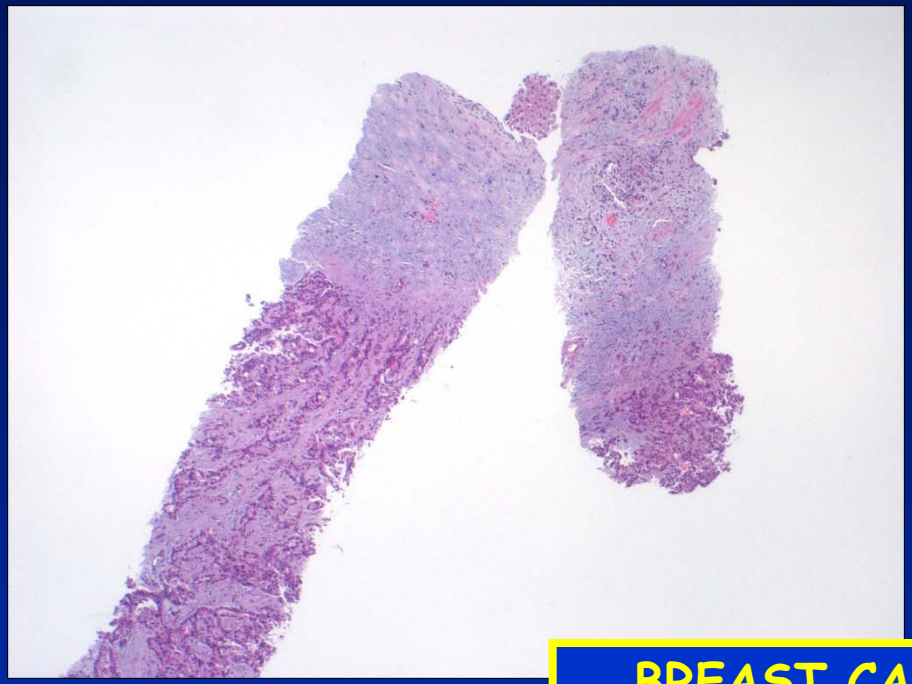


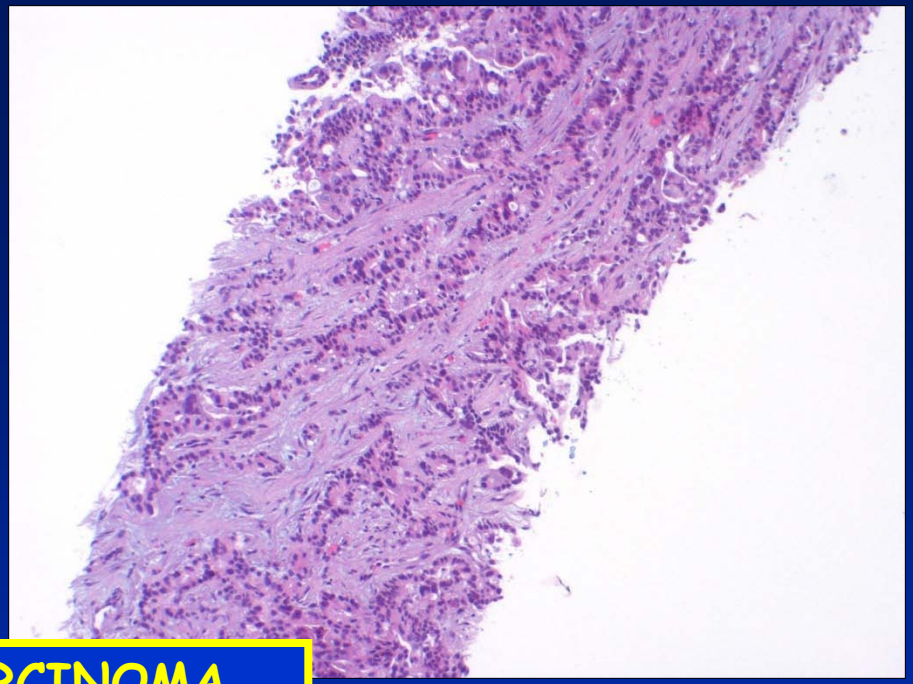
BILIARY-PANCREATIC CARCINOMA



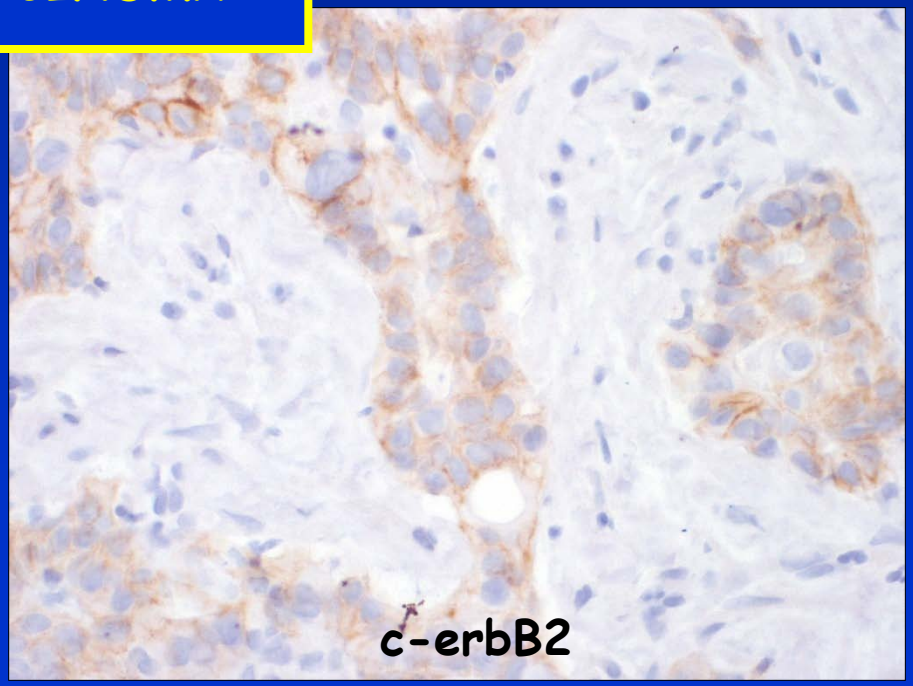


BREAST CARCINOMA





Estrogen receptor



c-erbB2

ER e PgR

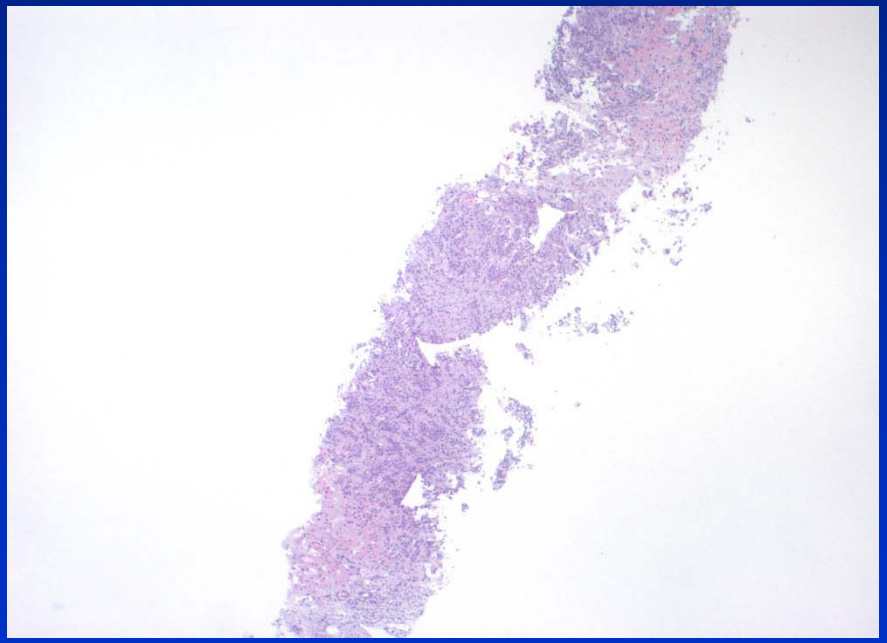
Table 1. Estrogen Receptor (ER) and Progesterone Receptor (PR) Immunoreactivity in Tumors in the Liver

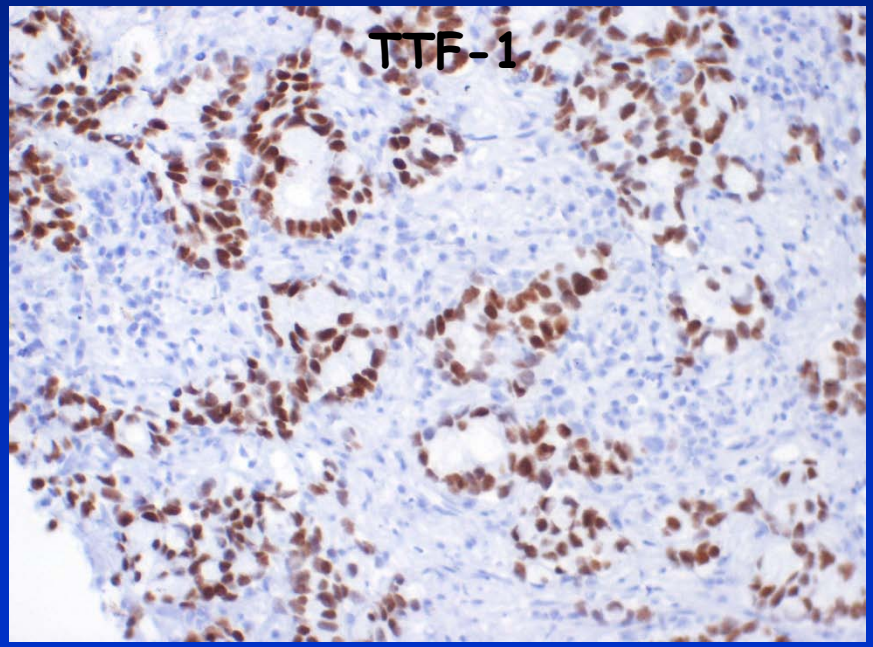
Tumor Type	ER, No. (%)	PR, No. (%)
Breast (n = 17)	6 (35)	5 (29)
Hepatocellular carcinoma (n = 14)	0	1 (7)
Biliary (n = 16)	0	5 (31)
Esophageal/gastric (n = 16)	0	2 (13)
Colorectal (n = 14)	0	0
Pancreatic (n = 15)	0	1 (6)

- ER altamente specifico, ma poco sensibile
- PR poco specifico e poco sensibile
- Nelle mets. G3 poco utili entrambi

Nash JW et al. Arch Pathol Lab Med 2003

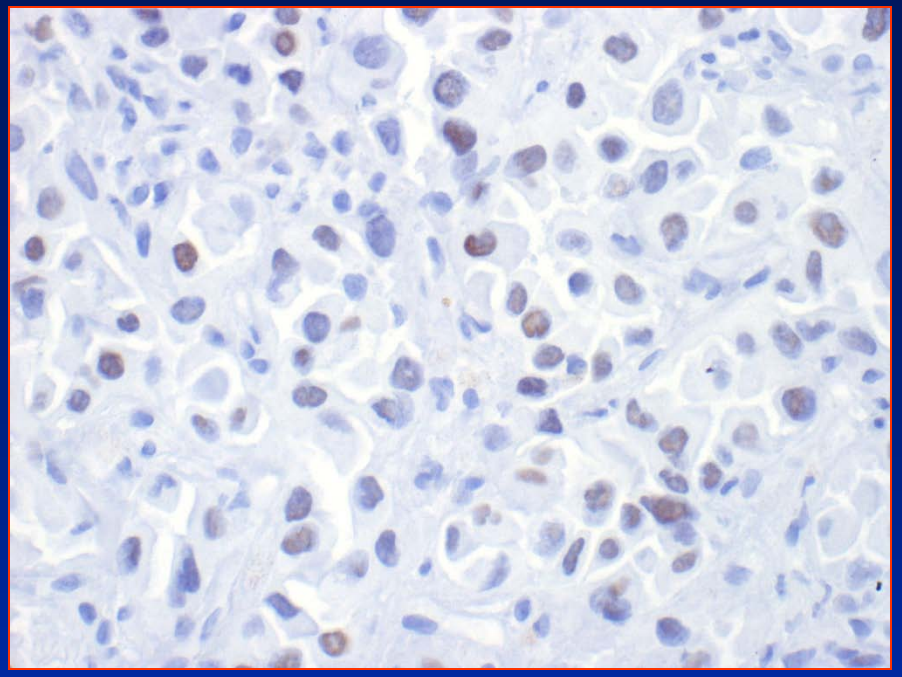
LUNG CARCINOMA



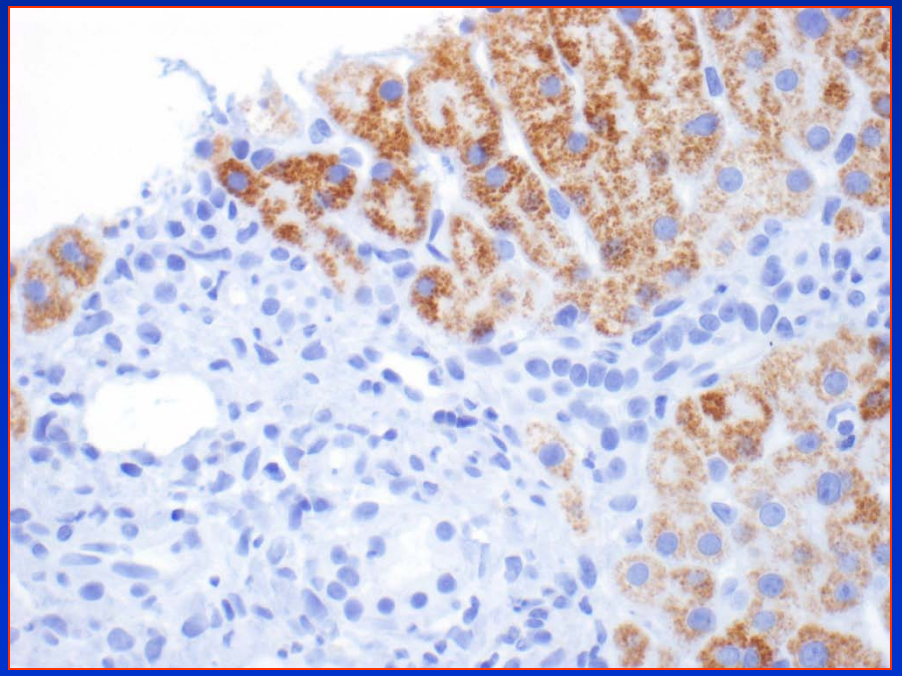


TTF-1

- Positività di nucleo:
  - Carcinoma polmonare
  - Carcinoma tiroideo



- Positività di citoplasma:
  - Epatociti
  - CCR, altri AdK

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