



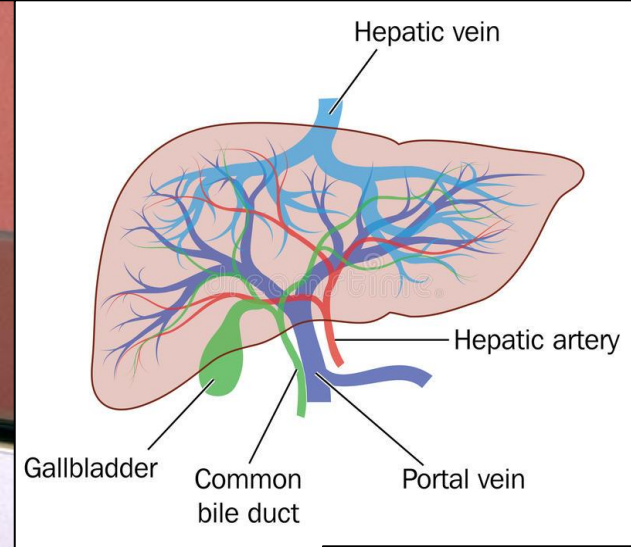
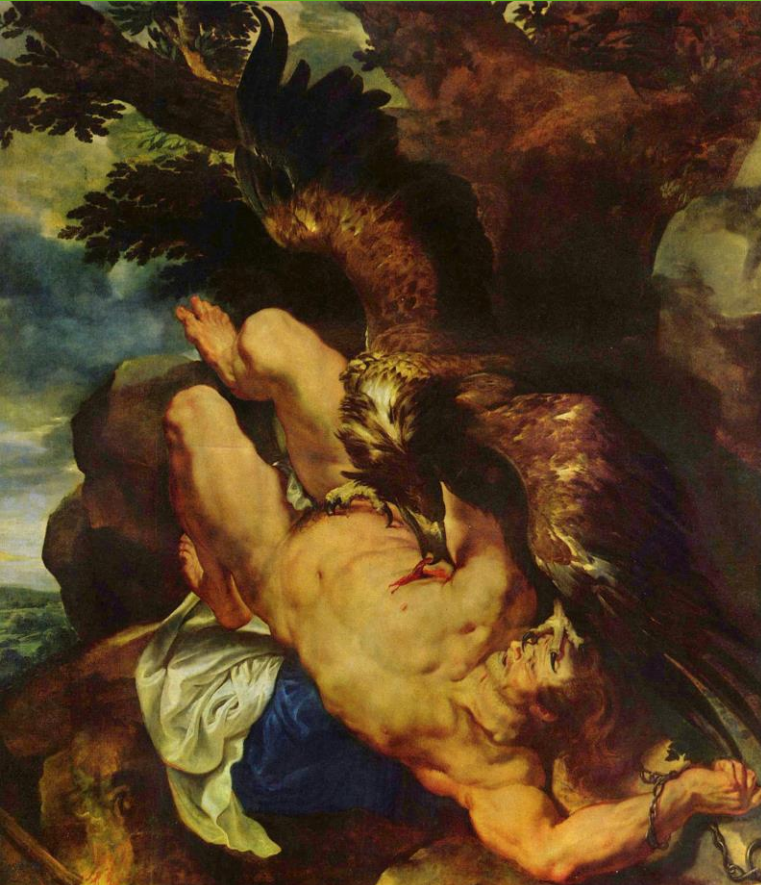
Magyar Életmód Orvostani Társaság II. Kongresszusa
2020. február 14-15., Kecskemét

ÉLETMÓD ÉS MÁJDAGANATOK

Prof. Dr. Máthé Zoltán

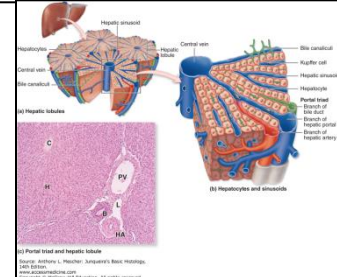
Med. habil., PhD, FRCSC, FEBS

Csodaszervünk: a máj



A máj

- jobboldalt a bordaív alatt
- 1,5-2 kg, a testsúly 1-2%-a
- 1,5 liter vér percenként
- gyors újraképződésre képes
- **a szervezet méregtelenítő erőműve!**
- A „test főparancsnoka” – kínai orvoslás



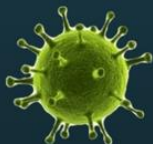


A máj funkciói

The Amazing Liver

Immunity

Phagocytes called Kupffer cells destroy pathogens, like bacteria, that enter the gut.

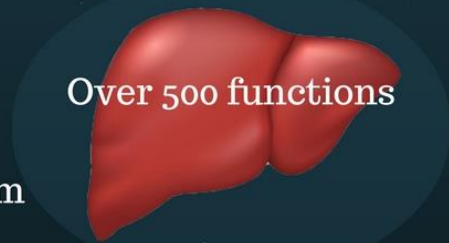


Blood

Creates blood clotting factors
Filters blood of toxins
Destroys old or damaged blood cells



Over 500 functions



Storage

Fats,
Proteins,
Glycogen,
Vitamins
Copper
Iron

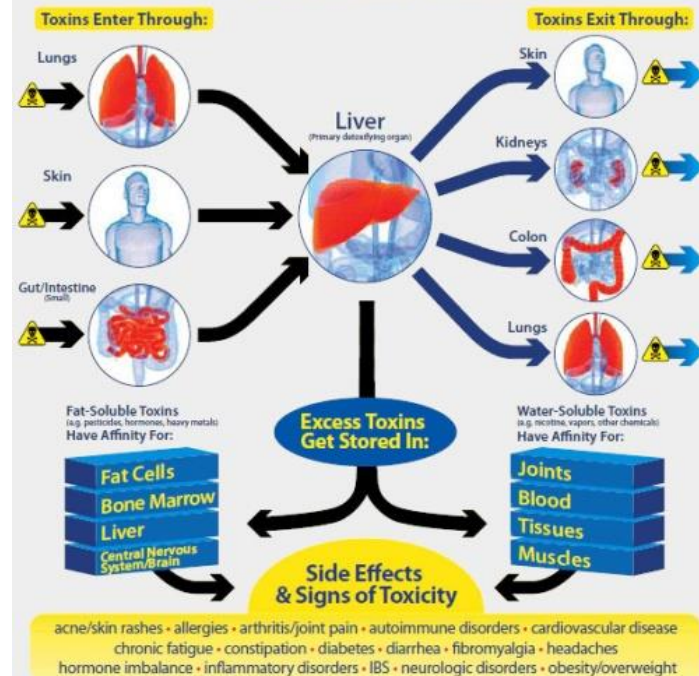


Metabolism

Creates bile
Breaks down fats, proteins
Involved in regulation of blood glucose



The Process of Detoxification and Elimination



The Burden of Primary Liver Cancer and Underlying Etiologies From 1990 to 2015 at the Global, Regional, and National Level Results From the Global Burden of Disease Study 2015

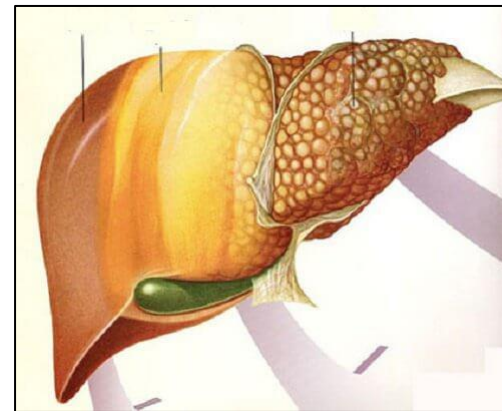
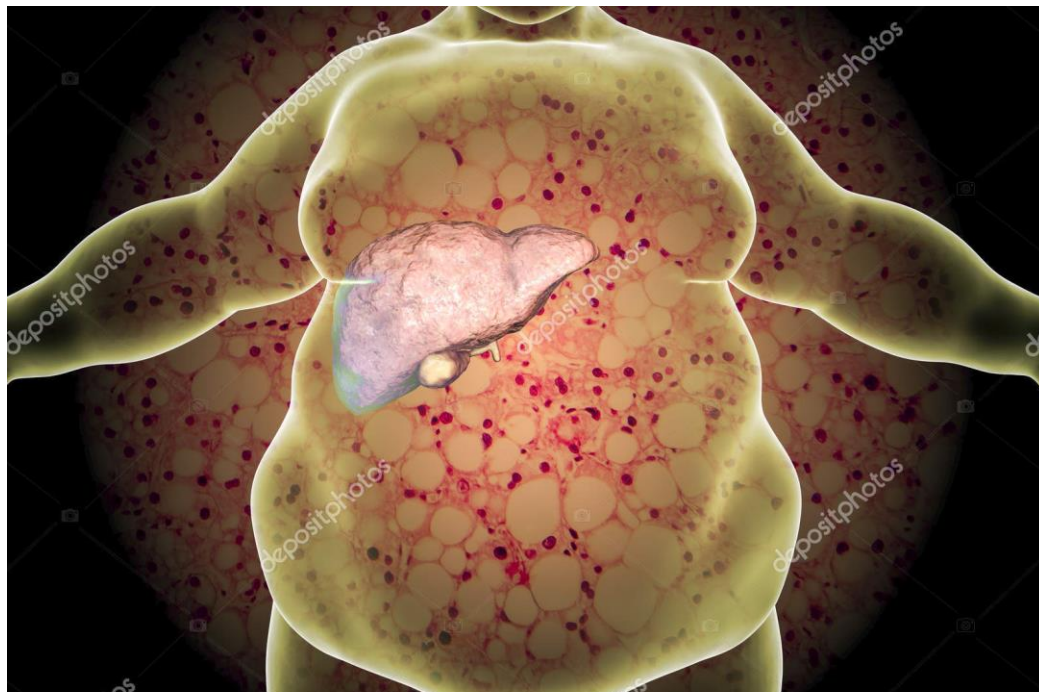
Global Burden of Disease Liver Cancer Collaboration



- A primer májdaganatok (HCC) száma
- 1990-2015 – 75%-al nőtt!
- USA-ban – leggyorsabban növekvő halált okozó daganatos betegség
- Főbb okai: alkohol, hepatitis, helytelen táplálkozás, túlsúly
- Kialakulása megelőzhető!



Zsírmáj → kötőszövetes átalakulás (Fibrózis-Cirrhosis) → daganat



A zsírmáj okai:

- Túlsúly (NAFLD)
- Alkohol, (energiaital!)
- Helytelen táplálkozás
- Vírusok (Hep.B,C)

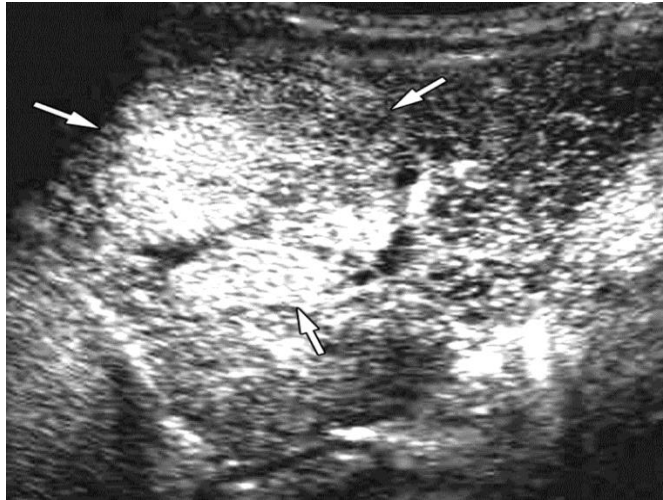
Májdaganatok: kivizsgálás



TRANSPLANT CENTER GRAZ (TCG)

Medizinische Universität Graz

Labor, májfunkció (ALT), vírusok:Hep.(A,B,C,D), GI kivizsgálás, Tu. Marker, képalkotók, biopszia, staging --- Onko-Team---HPB sebész

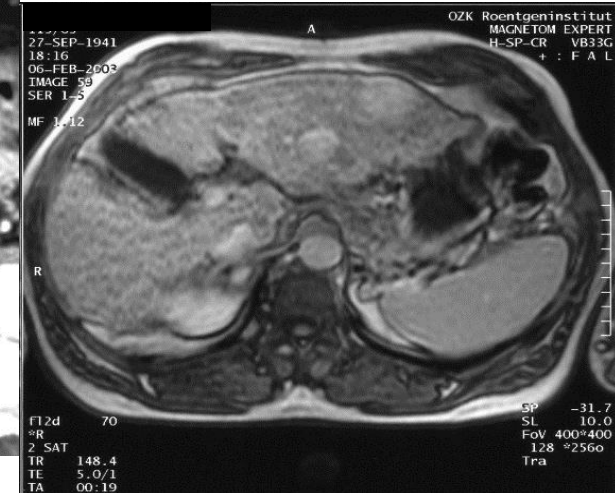


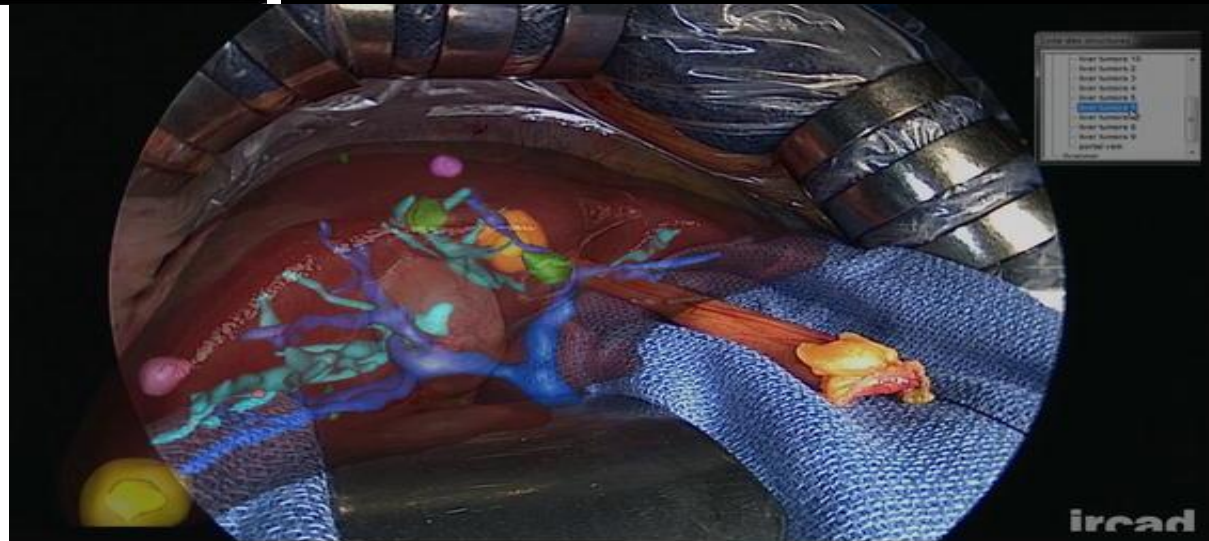
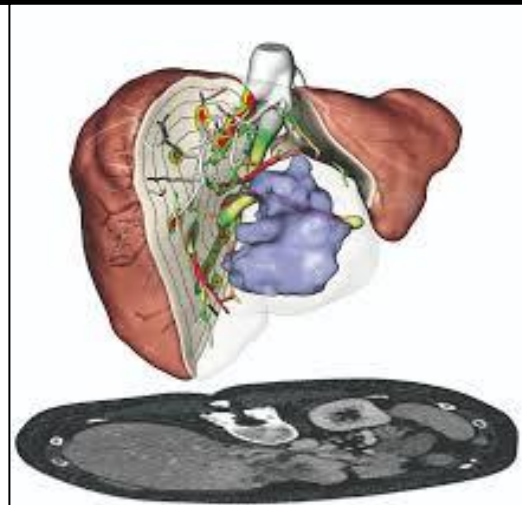
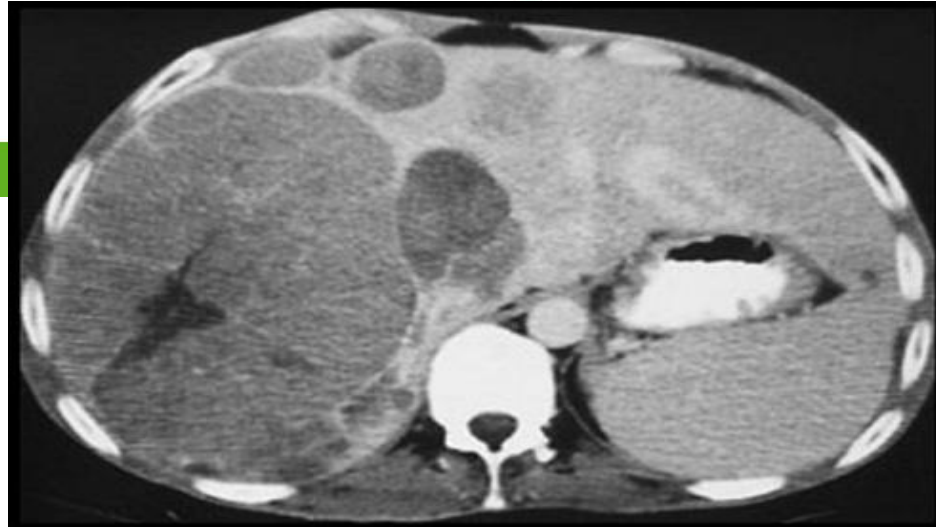
UH!

CT



MR





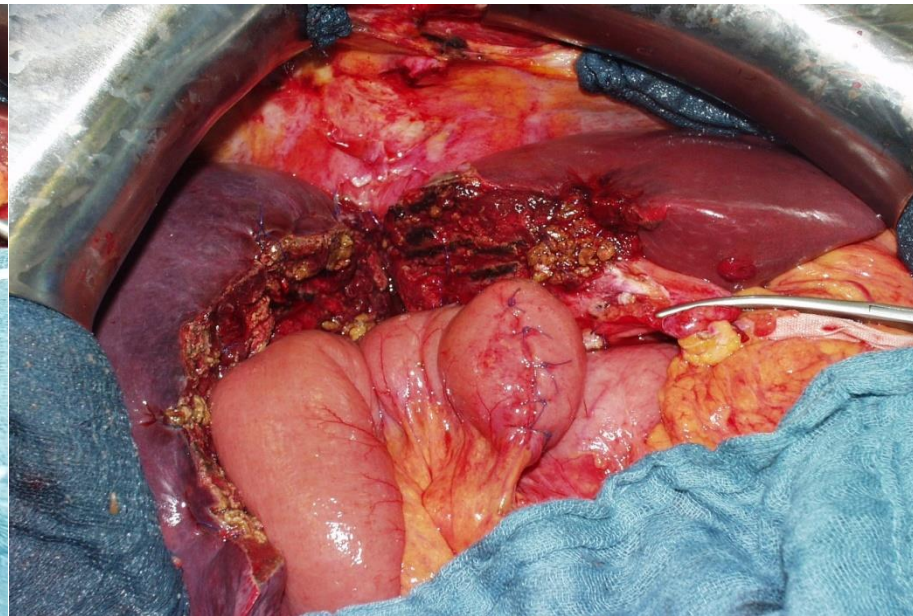
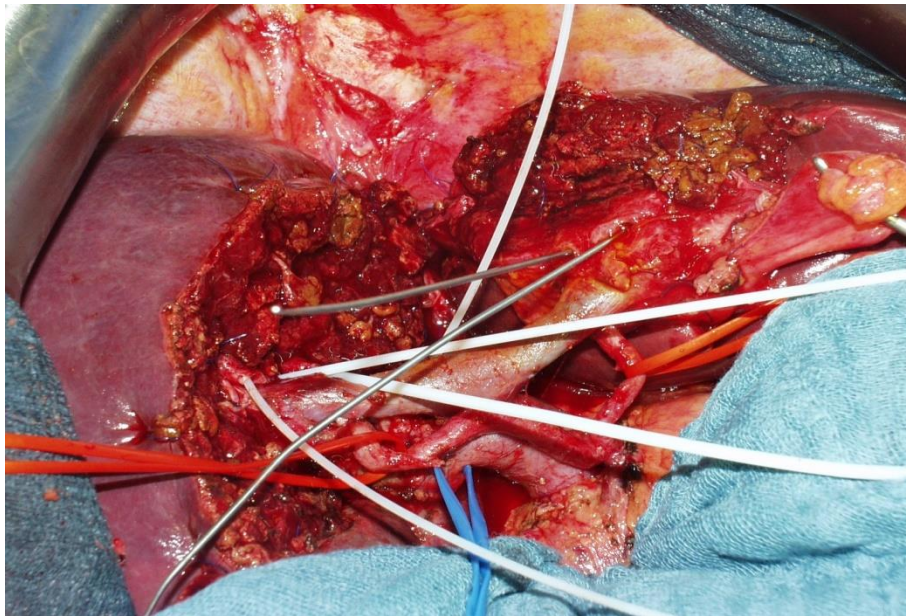
- Liver Arteries 1-12
- Liver Veins 1-12
- Biliary Tree 1-12

Májdaganatok sebészete



TRANSPLANT CENTER GRAZ (TCG)

Medizinische Universität Graz



➤ Központi reszekció „Taj Mahal“

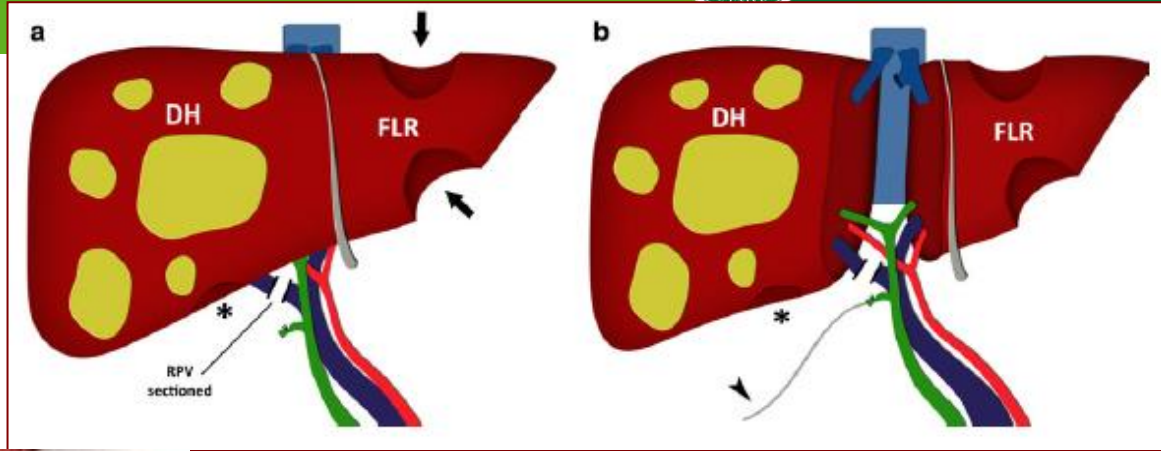
A máj 60-70%-a eltávolítható, regeneráció!

ALPPS Technika

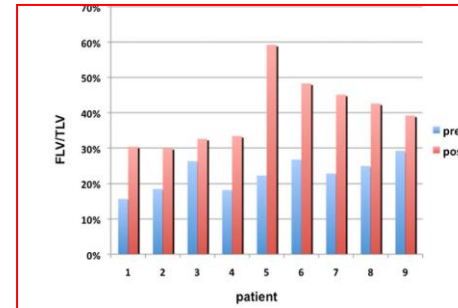


I.-II. lépés

Kiterjesztett jobboldali
májrezekció 10 nap múlva



Alvarez et al. *J. Gastroint. Surg.* 2013



90%-os növekedés
10 nap alatt!

Li et al. *J. Gastrointest. Surg.* 2012

Synergism Between Obesity and Alcohol on the Risk of Hepatocellular Carcinoma: A Prospective Cohort Study



TRANSPLANT CENTER GRAZ (TCG)

Medizinische Universität Graz

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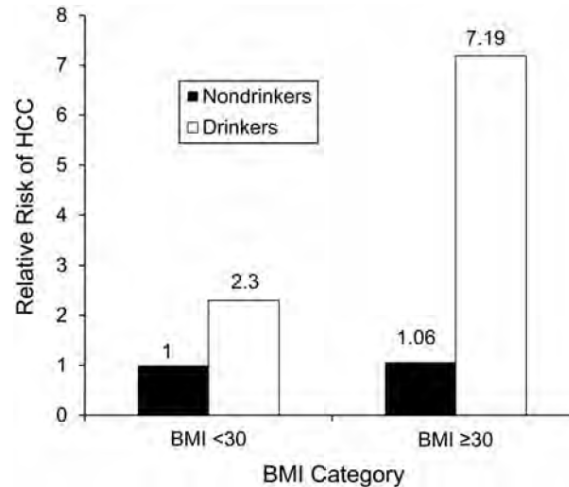


Figure 2. Synergistic interaction of obesity and alcohol use with the risk of hepatocellular carcinoma (HCC). Hazard ratios showing the risk of hepatocellular carcinoma stratified by extreme obesity and alcohol use status over a mean follow-up of 11.6 years. BMI, body mass index.

Túlsúly és alkohol



A dohányzás és a májdaganatok

[16,17]. Data from the European Prospective Investigation into Cancer and Nutrition (EPIC) suggested that, in Europe, smoking contributes to nearly half the cases of HCC, which is actually more than hepatitis B and C viruses [18]. Moreover, smokers who underwent HCC resection had a higher rate of recurrence and liver-specific mortality [19].

Table 1. Human studies focusing on the effect of smoking on HCC.

[Ref]	Design	Population	Total	Conclusions drawn	Limitation of study
[14]	Case study	110 HCC patients and 42 patients with metastatic liver tumors / intrahepatic stones who underwent surgery between 1984-1995	152/110	4-aminobiphenyl exposure (result of cigarette smoking) plays a role in the development of HCC in humans. OR = 4.14 (1.15-15.50) and OR = 9.71 (2.82-34.86) for medium and high 4-aminobiphenyl-DNA adducts levels respectively.	Retrospective case control study, no clear definition of smoking, information about smoking duration/quantity was not available for all subjects.
[15]	Case control	36,000 adults who died from liver cancer (cases) and 17,000 who died from cirrhosis (controls)	53,000/36,000	For men smokers, RR = 1.36 (1.29-1.43) to die from liver cancer. Looking at consumption (cigarettes/day): RR = 1.5 (1.39-1.62) for 20/day and RR = 1.32 (1.23-1.41) for 10/days. For women smoker RR = 1.17 (1.06-1.29), RR = 1.45 (1.18-1.79) for 22/day and RR = 1.09 (0.94-1.25) for 8/day.	Retrospective study
[16]	Prospective cohort	63,257 adults aged 45-74 years in Singapore	61,321/394	Current vs. never smokers have an increased risk of HCC HR = 1.63 (1.27-2.10) after adjusting for alcohol consumption and other cofounders. Result was dose-dependent ($p < 0.001$) and duration of smoking dependent ($p = 0.002$).	Smoke habit evaluated only at enrollment
[17]	Prospective nested case-control study	115 HCC matched with 229 controls from the European Prospective Investigation into Cancer and nutrition EPIC cohort.	115/229	Smokers have a higher risk to develop HCC. OR = 4.55 (1.90- 10.91). Former smokers have a higher risk to develop HCC. OR = 1.98 (0.90-4.39).	Information about comorbidities such as diabetes was not available for all subjects, HCC treatment was not taken into account
[18]	Prospective cohort	2273 HCC patients aged 20-75.	2273/2273	Looking at survival after HCC diagnosis, HR = 1.20 (1.05-1.37) for current smoker and 1.16 (0.98-1.38) for ex-smokers compared to never smokers.	Lack of evaluation of interactions with other possible factors (cirrhosis, diabetes, diet)
[19]	Prospective cohort	302 patients with HBV infection who underwent surgical resection for HCC	302/302	Heaving smoking (PY ≥ 20) was the most significant factor associated with HBV-related HCC recurrence after surgical resection ($p = 0.001$). Median recurrence-free survival was worse for ex- and current-smoker than for non-smoker (24, 26, 34 months respectively, $p = 0.033$).	Small number of ex-smoker (n = 25), tumour burden in that specific group was worse than the other groups, Short-term follow-up.

Total column: number of subjects in study/number of subjects with HCC. OR, odds ratio; RR, relative risk; HR, hazard ratio.

Coffee Reduces Risk for Hepatocellular Carcinoma: An Updated Meta-analysis

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^{*}Department of Epidemiology, IRCCS – Istituto di Ricerche Farmacologiche “Mario Negri,” Milan; and [‡]Department of Clinical Sciences and Community Health, Università degli Studi di Milan, Milan, Italy

Table 1. Case-Control and Cohort Studies on Coffee Consumption and HCC

Study	Country	Cases, n	Controls/cohort size, n	Follow-up period, y (cohort studies)	Adjustment	Quality score ^a
Case-control studies						
Kuper et al. ²⁰ 2000 ^b	Greece	333	360	-	Age, sex	5
Gallus et al. ²¹ 2002 ^b	Italy	501	1552	-	Age, sex	4
Galassi et al. ²² 2006 ^b	Italy	250	500	-	Age, sex, alcohol drinking, HDV, HBV	7
Ohfuji et al. ²³ 2006 ^{b,c}	Japan	73	253	-	Age, sex, date of first visit, duration of liver disease, BMI, disease severity, family history of liver disease, interferon therapy, tobacco smoking, alcohol drinking, other caffeine-containing beverages	5
Montella et al. ²³ 2007 ^b	Italy	185	412	-	Age, sex, education, tobacco smoking, alcohol drinking, serologic evidence of HCV and/or HBV infection	6
Tanaka et al. ¹⁷ 2007 ^d	Japan	209	1253	-	Age, sex, alcohol drinking, tobacco smoking	4
Kanazi et al. ¹² 2010 ^d	Serbia	45	90	-	Age, sex, education, tobacco smoking, alcohol drinking, serologic evidence of HCV and/or HBV infection	5
Leung et al. ¹³ 2011 ^{d,e}	China	109	125	-	Age, sex, tobacco smoking, alcohol drinking, tea drinking, physical activity	5
Cohort studies						
Inoue et al. ²⁴ 2005	Japan	334	90,452	10	Age, sex, study center, tobacco smoking, alcohol drinking, vegetable consumption, tea drinking	7
Kurozawa et al. ²⁴ 2005	Japan	258	83,966	11	Age, sex, education, history of diabetes and liver disease, tobacco smoking, alcohol drinking	7
Shimazu et al. ²⁵ 2005:	Japan	70	22,404	9	Age, sex, history of liver disease, tobacco smoking, alcohol drinking	7
Shimazu et al. ²⁵ 2005:	Japan	47	38,703	6	Age, sex, history of liver disease, tobacco smoking, alcohol drinking	6
cohort 2						
Hu et al. ⁶ 2008	Finland	128	60,323	30	Age, sex, study year, alcohol drinking, tobacco smoking, education, diabetes, chronic liver disease, BMI	8
Ohishi et al. ¹¹ 2008 ^f	Japan	139	472	44	-	6
Inoue et al. ⁹ 2009	Japan	110	18,815	13	Age, sex, study center, tobacco smoking, alcohol drinking, BMI, history of diabetes mellitus, tea drinking, serum ALT level, HCV infection, HBV infection	8
Johnson et al. ¹⁰ 2011	China	362	63,257	13	Age, sex, dialect group, study year, BMI, education, alcohol drinking, tobacco smoking, tea drinking, history of diabetes	8

^aBased on the Newcastle-Ottawa Scale.¹⁶

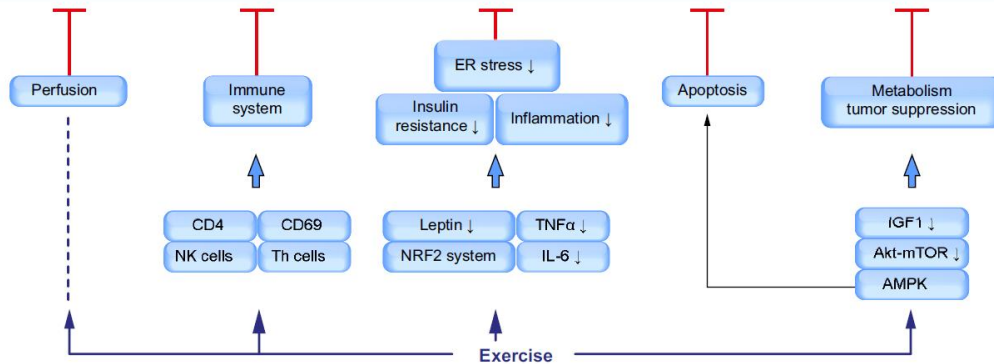
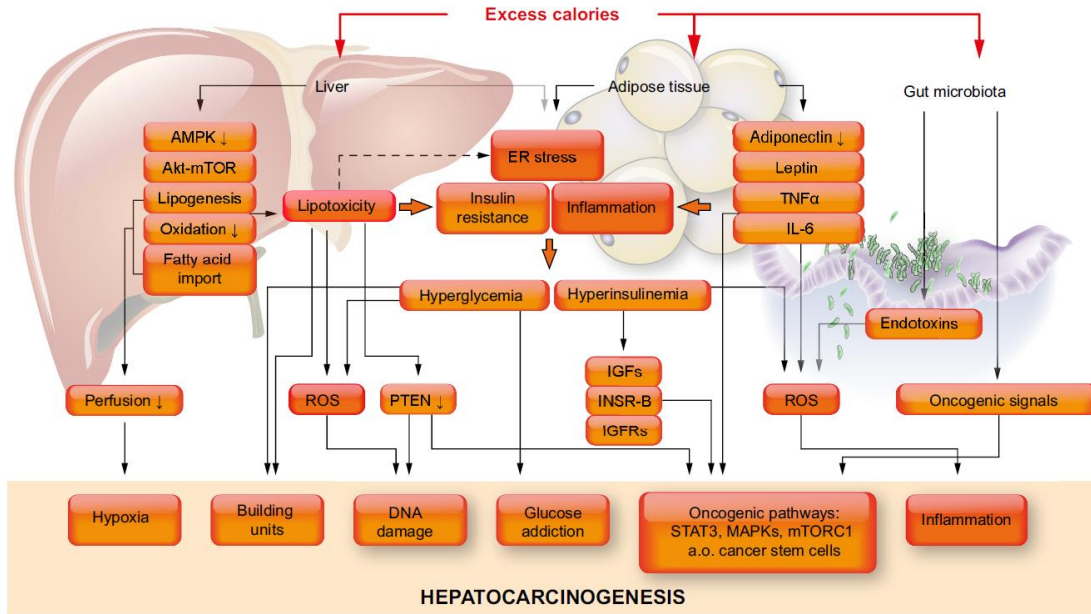
^bHospital-based case-control study.

^cAll cases and controls had HCV.

^dPopulation-based case-control study.

^eNested case-control study.

Kb. 3 csésze kávé kb. 40%-al csökkenti a májrák kialakulását, de CAVE ☺ dohányzás!



A rendszeres mozgás hatása a májdaganatokra

Hepatocellular carcinoma and lifestyles

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¹Hepatology, Department of Clinical Research, University of Berne, Berne, Switzerland; ²University Clinic of Visceral Surgery and Medicine, Inselspital Berne, Berne, Switzerland; ³Department of Visceral & Transplantation Surgery, University Hospital Zürich, Zürich, Switzerland

Összefoglalva:

- Az ún. metabolikus-syndroma (túlsúly és társuló diabetes) terjedésével egyre gyakoribb a primer májdaganat előfordulása cirrhosis nélkül is
- NASH, Non-Alcoholic Steato-Hepatitis – pre-cancerosis
- Egyértelmű összefüggés a HCC megjelenése és a fizikai aktivitás hiánya között – kísérletes és klinikai kutatások
- A dohányzás önmagában egy kiemelt kockázati tényező
- A koffein fogyasztásnak jótékony hatása igazolható
- Az életmód és a HCC kialakulása - mi a kapcsolat?
 - komplex anyagcserezavar (máj központi szerepe)
 - állandó gyulladás fennállása
 - a védekező rendszer gyengülése



Mit lehet tenni?



Szakemberhez
fordulni!

