HI-3

Evolution of clinical presentation, treatment and prognosis of patients with alveolar echinococcosis treated at the University Hospital Zurich: a 50-year experience

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Background: Alveolar echinococcosis (AE) is an orphan zoonotic liver disease of increasing concern in Switzerland. The study aim was to evaluate the evolution in the presentation, treatment and prognosis of AE patients over the past 50 years.

Methods: Retrospective cohort study of 332 AE patients who were treated at the University Hospital Zurich between 1973-2022. Analysis included patient demographics, symptomatology, AE stage according to PNM classification, treatment type, outcome and overall survival; stratified by decade of diagnosis.

Results: Over the decades patient demographics did not change significantly, with a median age at diagnosis of 58 years. Since 2000 a steady increase in new diagnosis of AE was observed, with an increasing proportion attributable to incidental diagnosis. This was accompanied by a shift towards earlier stages. Contradictory, however, fewer patients underwent surgical resection. The 15-year overall survival rate remained consistent at 80% throughout the decades without significant variation and association with the disease stage. Only very few AE-related fatalities were recorded. Median age at death was 77 years.

Conclusion: Significant changes in incidence, stage at presentation and treatment of AE patients were observed over the past 50 years. Impact of AE on overall survival was minimal.

HI-4

Baseline liver biopsy alterations in patients with severe alcoholic hepatitis: could histology predict steroid non response?

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Background: Prednisone is the only treatment with recognized short-term survival benefit in severe biopsy-proven alcoholic hepatitis (AH). The Lille score (www.lillemodel.com) identifies at day 7 of treatment patients with poor prognosis in whom steroids have to be stopped. We aimed to explore whether histology on baseline pre- treatment liver biopsy (LBx) could detect differences between steroid responders (SR) (Lille score <0.45) and non responders (NR).

Methods: This retrospective study (1.2015 to 3.2023) included patients with severe AH (Maddrey >32), baseline LBx available, no sepsis, no viral hepatitis, Lille score guided therapy with steroids indicating SR or NR at day 7 of prednisone. We used a semi-quantitative scoring system of histological features adapted from a recent publication (Virchows Archiv 2018). Examinators were blinded to clinical and biological data.

Results: Among the 67 patients included, 38 were SR (mean age 53 yrs, 31% female, MELD 19) and 29 were NR (mean age 61 yrs, 34% female, MELD 24). Compared to SR, patients with steroids NR were older, had a higher MELD score (p <0.05) but similar baseline serum bilirubin, Maddrey score and severity of portal hypertension. The table describes the most relevant histological lesions (Fisher exact test)

Histological alteration	SR (n = 38)	NR (n = 29)	p value
Steatosis	++	++	NS
Fibrosis	+++	+++	NS
Mallory-Denk	++	++	NS
Canalicular cholestasis	++	+++	0.04
Total histological score	8.4	9,9	0.05

Conclusions: In patients with severe AH, canalicular cholestasis in the absence of sepsis is associated with steroid NR and could help to early identify patients with a poor prognosis. Having liver histology available may bring important information in this clinical setting.

HI-5

Cost-effectiveness of Hepatocellular Carcinoma (HCC) Surveillance Strategies in Switzerland

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**At the time of analysis*

Background: Hepatocellular carcinoma (HCC) surveillance using ultrasound (US), with or without alpha-fetoprotein (AFP), is recommended every 6 months for high-risk groups; however, novel serum-based tools are needed to improve diagnostic performance of HCC surveillance. The **GAAD** algorithm is a novel *in vitro* diagnostic tool that combines **G**ender (biological sex) and **A**ge with measurements of Elecsys® **A**FP and protein induced by vitamin K absence-II (previously **D**CP) assays.

Here, we analyse the cost-effectiveness (CE) of different HCC surveillance strategies in Switzerland.

Methods: A micro-simulation Markov model was developed from the perspective of the Swiss healthcare system to estimate the total costs and quality-adjusted life-years (QALYs) per patient for four different HCC surveillance strategies: no surveillance, US, US+AFP and GAAD. Parameters were sourced from published literature and cost databases. Multi-way sensitivity analyses were performed to analyse joint parameter uncertainty and to build CE planes and CE acceptability curves.

Results: The simulated cohort consisted of 100,000 patients aged ≤75 years with non-cirrhotic hepatitis B infection, stage 3 fibrosis, or compensated liver cirrhosis. The costs and QALYs per patient, respectively, were 27,970 Swiss Francs (CHF) and 9.529 for no surveillance, CHF31,213 and 9.569 for US, CHF32,433 and 9.579 for US+AFP and CHF31,768 and 9.583 for GAAD. At a CE threshold of CHF100,000 per additional QALY (less than twice the GDP in Switzerland), GAAD was the most cost-effective strategy among the four HCC surveillance strategies.

Conclusions: GAAD could be considered the most cost- effective HCC surveillance strategy compared with no surveillance, US and US+AFP (the current standard of care for HCC surveillance in Switzerland).

