Challenges and barriers to early HCC detection: perspectives from Africa

Asgeir Johannessen

Chairman, HEPSANET
Professor, University of Oslo
Senior consultant, Vestfold Hospital

HEPSANET
HEPATITIS B IN AFRICA
COLLABORATIVE NETWORK

Gaps and challenges in Africa

- Competing priorities: malaria, HIV, TB, maternal health, poverty – it is not always obvious that HCC screening is a good investment
- Screening is always a ***balance between costs/harm and benefits*** – this equation is different in Ethiopia vs France
- Must not add a new burden on already stretched healthcare systems if the benefits don't outweigh the costs!

Screening principles

- Access to curative treatment
- Screening test is good: to avoid too many false positives (and false negatives)
- Prevalence of HCC in the screened population is «high»: >1.5% per year has been the conventional threshold
- Realistic logistical framework and capacity in the healthcare system

MJ Dobrow, et al. CMAJ 2018.

Screening principles

- **Access to curative treatment**
- Screening test is good: to avoid too many false positives (and false negatives)
- Prevalence of HCC in the screened population is «high»: >1.5% per year has been the conventional threshold
- Realistic logistical framework and capacity in the healthcare system

MJ Dobrow, et al. CMAJ 2018.

Curative treatment in sub-Saharan Africa

- Liver resection may be available at ***referral (and private) hospitals***
- Liver transplantation unavailable in practice (except South Africa)
- But for people living in rural settings and/or with poor economy (=most people in Africa) curative treatment is inaccessible

Screening principles

- Access to curative treatment
- **Screening test is good: to avoid too many false positives (and false negatives)**
- Prevalence of HCC in the screened population is «high»: >1.5% per year has been the conventional threshold
- Realistic logistical framework and capacity in the healthcare system

MJ Dobrow, et al. CMAJ 2018.

Ultrasound availability in sub-Saharan Africa

- Ultrasound (but not AFP) often ***available and affordable*** at district hospitals
- But variable quality due to high patient volume

Screening principles

- Access to curative treatment
- Screening test is good: to avoid too many false positives (and false negatives)
- **Prevalence of HCC in the screened population is «high»: >1.5% per year has been the conventional threshold**
- Realistic logistical framework and capacity in the healthcare system

MJ Dobrow, et al. CMAJ 2018.

Who to select for screening?

- Risk stratification tools (PAGE-B, mPAGE-B, REACH-B, aMAP, etc) not validated in Africa
- Ethiopian study:
  - 11 incident HCC cases over 6,668 person-years
  - All 11 had cirrhosis
- In the ***African HBV operational toolkit*** developed by HEPSANET and Africa CDC we recommend HCC screening if there is:
  - Cirrhosis
  - Family history of HCC

B Hailu, et al. Abstact, COLDA 2025.

Screening principles

- Access to curative treatment
- Screening test is good: to avoid too many false positives (and false negatives)
- Prevalence of HCC in the screened population is «high»: >1.5% per year has been the conventional threshold
- **Realistic logistical framework and capacity in the healthcare system**

MJ Dobrow, et al. CMAJ 2018.

Logistics and capacity in healthcare system

- Access and costs of CT/MRI and surgery are huge barriers
- HCC diagnosis without CT/MRI?
  - For research vs. for clinical management
  - HBsAg pos + cirrhosis + tumor >2cm = HCC?
- HEPSANET (14,000 PLWHB in 12 countries, 25,000 imaging results): aim to answer some of these questions over the coming year

Opportunities

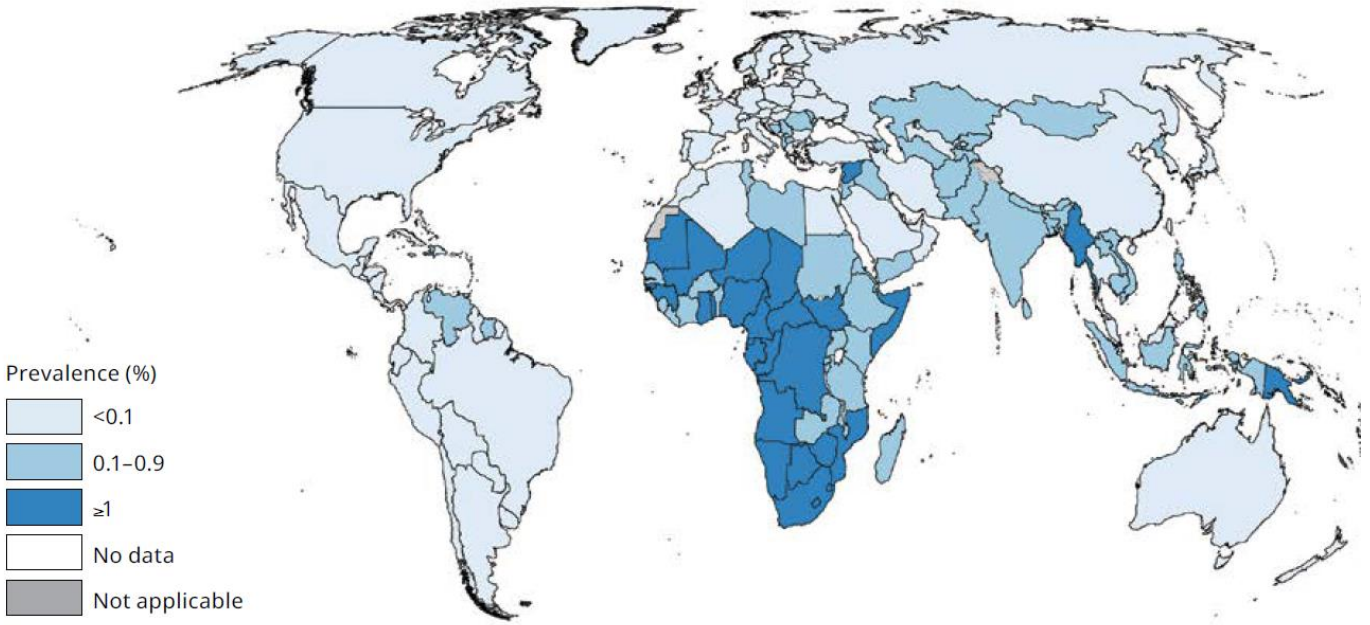
- Ultrasound with AI
- Telemedicine
- Increasing work force of HPB surgeons in Africa
- Ablation could be scaled up as a curative treatment option

- We have better screening tools than most other cancers!

HBV elimination = HCC elimination

- HBV causes 76% (+HDV 15%) of HCC in sub-Saharan Africa
- HCC in Africa can be reduced if we succeed with:
  - ***HepB birth-dose vaccine coverage >90% (2024: 17%)***
  - HepB childhood vaccine coverage >90% (2024: 76%)
  - HBsAg screening: test all adults at least once
  - Treatment expansion and decentralization

Fig. 3.8. Prevalence of chronic HBV infection among children aged under 5 years at country level, 2024



OB Dakurah. BMC Cancer, 2021.
WHO. World Hepatitis Report, 2026.