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To cite this version:

Yusuke Shimakawa, Maud Lemoine. Early age at diagnosis of hepatocellular carcinoma in sub-Saharan Africa. The Lancet Gastroenterology & Hepatology, 2017, 2 (6), pp.393. 10.1016/S2468-1253(17)30109-7 . pasteur-01740756

HAL Id: pasteur-01740756

https://pasteur.hal.science/pasteur-01740756v1

Submitted on 22 Mar 2018

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Title

Early age at diagnosis of hepatocellular carcinoma in sub-Saharan Africa

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Keywords

Hepatitis B; hepatitis C; Africa; hepatocellular carcinoma; age; rate

Main Text

We read with interest the large-scale multicountry study by Ju Dong Yang and colleagues,[1] which described clinical characteristics of patients with hepatocellular carcinoma (HCC) in Africa. The investigators reported that the median age of HCC diagnosis was significantly lower in sub-Saharan Africa than in Egypt (46 vs 58 years, $p<0.0001$) and that younger age at diagnosis in sub-Saharan Africa was also seen after stratification by the underlying cause: hepatitis B virus (HBV) or hepatitis C virus (HCV). They suggested that environmental or genetic factors might accelerate the onset of HCC in sub-Saharan Africa. Evidence from a systematic review of HCC case series has also shown younger ages at diagnosis of HBV-related HCC in sub-Saharan Africa than in Asia.[2]

Drawing such conclusions from case series is questionable, because the median age at HCC diagnosis can be strongly affected by the underlying population's age distribution. Indeed, the median age of the population in sub-Saharan Africa is lower than in Egypt (18 vs 25 years),[3] reflecting the higher risks for competing causes of death in sub-Saharan Africa.

Age groups at high risk of HBV-related HCC can be best evaluated via age-specific incidence rates in a population-based cohort of chronic HBV carriers. However, to the best of our knowledge, only one such study has been done in sub-Saharan Africa;[4] 405 people in The Gambia with chronic HBV infection (median age at baseline 10.8 years) were followed up for a median duration of 28 years, during which time six individuals developed HCC. All people who developed HCC were men, with a median age at diagnosis of 47.5 years (range: 38-67). The age-specific incidence in male chronic HBV carriers increased with age: incidences were 0.0, 304.2, 634.6, 563.3 and 1538.1 per 100,000 carrier-years for those 25-34, 35-44, 45-54, 55-64 and ≥65 years, respectively. These findings do not support the suggestion of earlier ages of diagnosis of HBV-related HCC in sub-Saharan Africa than elsewhere in the world.

Given the rarity of longitudinal cohorts of chronic HBV infection in Africa, the next most reliable way to evaluate this would be to compare the age-specific incidence rates of liver cancer in the general population between countries with similarly high HBV prevalence. We used cancer incidences estimated by the GLOBOCAN 2012 study (http://globocan.iarc.fr/Default.aspx) to look at male age-specific liver cancer incidence in The Gambian and China (figure). This figure also does not seem to support the notion of early age at HCC diagnosis in sub-Saharan Africa.

There is insufficient evidence to confirm the early onset of HBV-related HCC in sub-Saharan Africa. This issue underlines the importance of developing and maintaining population-based cancer registries in sub-Saharan Africa with well-defined catchment areas.[5]

Declaration of Interests

We declare that we have no conflict of interest.

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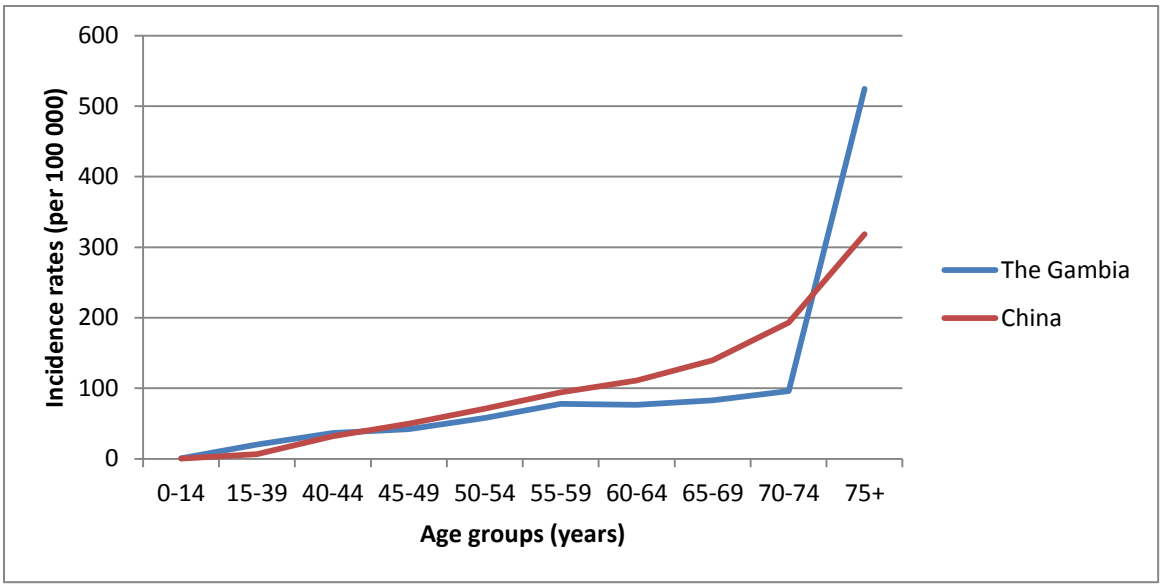
Figure: Age-specific incidence of liver cancer in men in The Gambia and China