Burden and Changing Patterns of Occupational Liver Disease

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Q. What is the burden and changing patterns of occupational liver disease (OLD)?

Both incidence and prevalence of OLD are unknown. As for all occupational diseases, the number of OLD is declining, particularly in high-income countries, due to improved hygienic conditions of working environments, although new OLD may appear as new technologies are developed. Nowadays, acute OLD are very rare whereas chronic conditions are relatively more common. The former has been caused mainly by solvents and pesticides exposures and the latter usually by solvents and their widespread uses in several industries and in agriculture as well. Even less common are liver cancers associated with occupational exposures. A characteristic malignancy associated with work places is liver angiosarcoma that is caused by very high exposures to vinyl chloride monomer (VC). This chemical is used in the manufacturing of PVC (polyvinyl chloride) but high exposures occurred before the mid-seventies of the last century. Thus, it will be increasingly unlikely to observe this neoplasia in the near future. The epidemiological association of hepatocarcinomas with occupational exposures is controversial.

Q. Why are OLD far from the outreach of internists?

Several reasons may account for this. Curricula in medical schools often do not include occupational medicine and when they do, teaching is superficial, judging by the results. For instance, when inspecting the medical records of a teaching hospital, rarely an occupational history is reported. The work place exposures have been associated with the entire spectrum of liver disease and OLD do not display clinical, biochemical and histopathological-specific characteristics. OLD are relatively uncommon as compared with other liver disorders. Although occupational exposure may contribute together with other etiologies to a given clinical condition its disentangling is difficult. This is due to the lack of specific toxicity tests, to the difficulties in establishing an occupational history (i.e. assessing intensity of exposures) and to the possibilities of various forms of interactions. Finally, there is no specific treatment for OLD except for avoiding further exposure.

Q. How can the EASL recommendations fill the gap?

The EASL recommendations are intended to offer a classification of the type of liver injuries occurring in work places and grading of their severity. Examples of chemicals causing OLD and their uses are reported. Filling the gap by suggesting diagnostic criteria for OLD will result in better reporting and a more accurate appreciation of the relevance of these disorders. Thus, in order to establish causality a coherent synthesis is required between

the characteristics of the patient's disease (phenotype), a differential diagnosis with common disorders, and the collection of an occupational history i.e. the understanding of the hazard (presence of hepatotoxic chemicals within an industrial process and their known capability to cause that disease) and of the risk (intensity and duration of exposures experienced by the patient.

Q. What is the future of OLD?

This is very difficult to say. Increased awareness on behalf of internists reporting OLD will certainly ameliorate our assessment of both incidence and prevalence of OLD. The development of new and more sensitive liver function tests to be added to the standard clinical panel and of specific toxicity tests will certainly enhance the detection of OLD. However, occupational medicine physicians and industrial hygienists must concentrate on prevention by improving hygienic conditions of work places. Only in this way could the burden of OLD be reduced or even eliminated.