

invading fibroid tissue is markedly cellular and nucleated. Between the lobules the new tissue is in places quite old and non-nucleated; elsewhere loose and very cellular. This distinction obtains especially when the median portion of any piece of cirrhotic tissue is compared with the lateral or *juxta-lobular* portion; the former being almost pure fibrous, the latter so filled with small-cell infiltration as to almost resemble lymphomatous tissue, and to suggest an exacerbation and increased rapidity of the morbid process towards the last. Another indication of recent rapid progress is the existence in the *juxta-lobular* portions of the cirrhotic tissue of liver cells, quite altered by pressure to oat-seed, crescentic, and similar shapes, but still persisting. The more persistent structures of course, such as bile ducts and other vessels, are seen in the proliferated Glisson's capsule, aggregated where lobules have disappeared. In places are seen patches of cirrhotic tissue which stain badly and seem to have undergone mucoid degeneration.

2. *Atrophy* and other *parenchyma* change: The lobules are found in all stages of atrophy, down to patches where the whole of the hepatic cells have been replaced by loose fibrous tissue so thickly infiltrated with small cells as to resemble closely under the low power a recent tubercle, the cirrhotic tissue being so delicate as form only a fine fibrillar stroma. As regards the individual hepatic cells they show pressure effects, especially at the periphery of the lobule, in the change of shape already mentioned, while in the more central parts the bile capillaries and ducts can be seen to be dilated. In places can be seen a marked increase in the number of bile ducts, which are aggregated in such a manner as to show actual increase in their number, the cells, as they proliferated, taking on the modified shape peculiar to those forming the duct wall, or rather *retaining* that form and taking that arrangement.

3. *Pigmentation*: Though properly to be mentioned under the last heading, is so marked a departure from the normal as to deserve special mention. It is especially marked at the periphery of the lobules, existing both as granules in the cells and as larger masses plugging the bile capillaries and ducts.

4. *Pylephlebitis* and other *vascular* change:

The radicles of the hepatic veins seem normal. The hepatic arterioles have not shared much in the changes that have occurred; but in addition to their being aggregated in spots where the parenchyma has disappeared, they at times are so dilated by obstruction at a point further on in their course as to form a kind of false aneurysmatous patch. The portal venous radicles show very marked pylephlebitis. Many of them are almost occluded, the lumen being occupied in five-sixths or nine-tenths of its area by new cell-growth, leaving only a chink or Y-shaped fissure in the centre. This is apparently of endothelial origin, and in some cases the cells are, in oblique or longitudinal section, markedly elongated spindle cells of the true scar tissue type. In cross section they show round outlines, and are arranged lengthwise with the vessel-wall. Other vessels in transverse section show short spindle cells standing on end, as it were, with ends projecting into the blood stream, and presenting for contact with it a rough quasi-villous surface.

INHALATIONS.

BY D. A. DOBIE, M.D., TORONTO.

There appeared in THE CANADIAN PRACTITIONER of September 16 an article upon this subject, selected from *The New York Medical Journal*, treating of inhalations as ordinarily given by means of sprays, or with inhalers in which air is made to pass through some medicated medium before inspiration.

I quite agree with the writer that, with the first-named method, the medicinal agents "are arrested often in the pharynx, oftener in the larynx, and never reach the seat of the disease." In the second method, "though the medicated atmosphere may reach the seat of the disease, its impregnation with carbolic acid, creosote, thymol, or other such agent, is so exceedingly feeble as to leave no solid ground for anticipating serious benefit from its use." The twelve cases he mentions, reported by Prof. Germain-See, treated upon a plan similar to the last, but with compressed air instead, certainly give grounds for hope, if they are not entirely satisfactory. The writer closes with the statement that if inhalation is ever to become a valuable agent in therapeutics, it will probably be by the adoption of some analogous plan.