Congenital Syphilis of the Lungs.

By ALFRED W. SIKES, M.D., F.R.C.S.,

Pathologist to Queen Charlotte's Hospital.

IN 1847 Virchow² described a condition of consolidation of the lungs of newly-born children as "white hepatisation." He mentions a *post-mortem* on a child which had lived, and where he was surprised to find that, although the lungs were whitish and voluminous, every particle sank in water. On section there was every appearance of a pneumonia in the stage of white hepatisation. On examining microscopically, the alveoli were seen to be filled with epithelial cells undergoing fatty degeneration. It was, however, not till years had passed that these changes were definitely established as being due to congenital syphilis.

Depaul, in the *Gazette Médicale* of 1851, described a condition of the lungs of the same nature as the above which he attributed to syphilis; in the same journal, in 1855, Lorrain and Robin described lung changes where the alveoli were filled up with epithelial cells in the same way that Virchow had described years before, and yet they gave it the name of "epithelioma of the lung."

In 1862 Howitz (quoted by Heller¹) insisted on the connection of these changes with congenital syphilis, as in at least one of his cases syphiloma and white consolidation were present in the same specimen.

In 1863 Wagner³ described six cases of this condition in children; in five of these the affection was diffuse, and in the sixth there was local syphiloma as well as diffuse thickening.

In 1881 Hecker (quoted by Heller¹) mentioned two cases of twins; in the first case one twin had white consolidation and the other syphiloma, in the other case both twins had consolidation.

Heller¹ described the local condition, or gumma, and the diffuse form, which he put under the two divisions of white pneumonia and interstitial pneumonia.

(a) *White pneumonia* is found only in still-born children or in those which have lived a very short time; the children are generally premature. The lungs are very large, and fill up the chest; they are whitish-grey or marbled in appearance and cannot be blown out.

Fig. I.

Fig. II.

A cross section gives the same appearance as the surface. In true cases the inter-alveolar interstitial tissue is not increased; the alveoli are packed with cells of an epithelial type showing fatty degeneration. True white pneumonia is undoubtedly very rare, but one finds the appearance described present to a greater or less extent in many cases of the interstitial form.

(b) *Interstitial pneumonia* is commoner than the last described; the lung is of a greyish-white colour. Here the alveolar walls are very much thickened, and in some cases the interlobular walls may be affected as well. The alveoli are narrowed, are fewer in number, and often filled with cells showing fatty degeneration.

Wagner³ had mentioned that very few capillaries could be made out in the alveolar walls, and said that on section only the larger vessels could be seen, but Heller¹ said that if the lungs be injected more capillaries than usual can be made out, so that a large number of the indefinite nuclei seen in the thickened walls may be those of the walls of the capillaries. The epithelium of the alveoli is swollen, and there is more or less shedding of the cells; the walls of the blood-vessels are also thickened.

Figures I. and II. are from a case which occurred at Queen Charlotte's Hospital. The mother was a single woman, admitted for her first confinement. No history of syphilis was obtained, nor were there any signs present while she remained in hospital. The child was very nearly, or quite, full time, but it was very small. Spots were present on the body, the arms and legs showed bullæ, and the hands and the feet were in parts denuded of epithelium. The child only lived fifteen minutes.

At the *post-mortem* the lungs showed the appearance depicted in Fig. I.; they were large, perfectly solid, quite filling up the chest, of a greyish-white colour, and when removed retained the exact form of the pleural cavity, as if a wax cast had been taken of it. The section showed the same whitish colour as the surface; the consolidation was quite homogeneous, and only the larger bronchi and vessels could be made out.

The microscopical section (Fig. II.) showed that the alveolar walls were very thick; the alveoli were fewer in number than usual, and gave the appearance of irregular spaces between the enormously thickened alveolar walls. The cells in the inter-alveolar walls had either rounded or slightly elongated nuclei, and these cells lay in an indefinite faintly striated groundwork. The walls of the blood-

vessels were thickened. The bronchial mucous membrane showed no ciliated epithelium, but rounded cells in two or three layers. Epithelial and round cells filled up most of the alveoli. The whole of the lung appeared to be undergoing a very slow inflammatory process. There was no pleurisy. The liver and the spleen of the child were large. It is remarkable that a child with the above described condition of lung could have lived for as long as fifteen minutes.

1. Heller. *Deutsches Archiv für Klinische Medizin*, Band. 42, 1888, s. 159.
2. *Virchow's Archiv*, Vol. 1, 1847, s. 146.
3. Wagner. *Archiv für Heilkunde*, 4, s. 363, 1863.