

man, desirous of making the elephant at a Zoological Garden perform some feats, in the absence of the keeper, entered its den, when the animal pressed its curled trunk upon his breast, and confined him against a post on either side by means of its tusks. From this dangerous position he was rescued, but in great collapse, and partly unconscious, with general emphysema of the entire thoracic region. No pulmonary symptoms were present: and at the time and subsequently when most carefully examined, no rib could be found broken. Gooch mentions among his surgical cases an instance like the above of emphysema following violence applied to the chest, where no fracture of the rib occurred, in which the fact was established by a post mortem held a few days after the accident. Emphysema, moreover, may be developed at some remote period after the reception of an injury to the chest, and is then distinguishable from the primary forms, by its occurrence being entirely unconnected with any pulmonary lesion. Such very rare cases, although not readily intelligible, seem to be reducible to two distinct classes; in the one, blood has been extravasated in considerable quantity beneath the integuments, and instead of being absorbed, suffers decomposition, so that gas is generated about the bruised part from which it may extend for a considerable distance; in the other, no blood has been extravasated, but the gas separates from it during its circulation leaves the vessels and fills up the cellular tissue. This last class is very much akin to the cases of various diseases which have been recorded where towards the latter stages emphysema appeared without any affection of the lungs, and was apparently due to impaired innervation, and disintegration of the blood into its gaseous constituents.

Pneumothorax, so evident in this case, is of great importance in diagnosis as it is not present in every case of emphysema from fractured ribs; for if the two pleuræ be adherent and their cavity obliterated by anterior Pleuritis, the air will pass from the lung directly through them into the cellular tissue of the parietes, as there is no preliminary space to fill up. When, therefore, pneumothorax is present, it is known that the pleural cavity exists and the membrane is not connected with former adhesions. This symptom was the real cause of distress and danger in the above case, the emphysema so much more apparent was a minor and subsidiary one. In similar cases, Hewson proposed puncturing the chest to let out the air, but one trial convinced him of the impropriety of the operation, since it substituted the pressure of the atmosphere for that of the confined air.

Fortunately for the patient, the breach in the pleura and lung healed without the occurrence of pleuritis and pneumonia sufficiently extensive to set forth manifestations of their presence. This immunity is referable in part to certain physical conditions consequent upon the injury.