

This can be rapidly controlled by a simple manœuvre, namely, the inhalation of oxygen. It is not necessary here, nor have I the opportunity or time to discuss why during the administration of chloroform there is gradually induced a moderate degree of asphyxia which has the effect of raising the venous pressure. The fact is plain, and consequently all that has to be done to lower the venous pressure and stop the oozing is to get rid of the asphyxial condition. Though it is impossible to promptly improve the action of the respiratory centre itself directly or the respiratory movements of the patient and so lower the venous pressure, it is easy to raise the percentage of oxygen in the anæsthetic atmosphere breathed, by directing a stream of the gas through the air inlet of the Harcourt regulator, and so quickly abolish any asphyxia.*

It is interesting to see how rapidly the bleeding stops as the colour of the oozing blood changes from dark purple to a bright scarlet. I frequently, therefore, during operation, especially towards the end, request the anæsthetist to turn on the oxygen for this purpose as well as for the elimination of shock (*vide inf.*) It of course must not be forgotten that as the gas is delivered through the Harcourt tap at a pressure somewhat greater than the patient's own respiratory current passing through the chloroform bottle, the in-draught of chloroform air (and therefore the total percentage of chloroform) is somewhat diminished, but this is of no practical consequence, especially at that stage of the operation.

SHOCK.

I now come to the analysis of the Queen Square cases, and shall endeavour as far as possible to thereby throw light on the actual cause of death occurring within the first twenty-four to forty-eight hours after the operation—that is, from what is termed “shock.”

The question is one of profound interest, for since shock or sepsis are practically the only causes of death which can be provided against, the answer to it lies at the root of successful prognosis as well as of further improvement in surgical technique.

A few prefatory words are necessary as to what is meant by “shock.” I quite agree with Crile, who has done so much to elucidate this all-important question, that we should discriminate between shock and collapse; and that while collapse is a temporary accident, in which the patient's nerve centres are capable of being revived by ordinary clinical means, shock, on the other hand, is a post-operative condition, which deepens after the operation for a variable period, and which if it ter-

* I may here add that Bayliss and Starling found in their experiments on animals that warming the respired air diminishes the effects of operative shock. This can easily be done by passing the oxygen through a hot coil.