

communication to the Société de Chirurgie stated that he employed no drainage whatever, and gave the results obtained in thirty-three major operations among which were extirpation of the breast, resection of the knee, amputation of the thigh, excision of cervical and inguinal glands, etc. He had no deaths attributable to the suppression of drainage. In the discussion that ensued Ollier stated that he had not yet dared to omit drainage in resections of the knee; in his opinion it would certainly be unsafe to dispense with it in cases where there were extra-articular purulent foci.

The results in the cases reported that an aseptic wound needs no drainage. It is well known that the large effusion around a fracture disappears without any symptoms, and in the successful healing of wounds according to Schede's method granulations rapidly replace the aseptic blood clot. If the fluids exuded after an operation or an injury remain free from infection they will be absorbed into the system without any disturbance in the wound itself or of the general health. Drainage then, is not really indicated in aseptic wounds and a wound, aseptic at the end of an operation, certainly runs a much smaller chance of infection subsequently when drainage is suppressed than when it is used. Mr. Chenieux, in an article in *Revue de Chirurgie*, for Nov., 1886, states that drainage is an enemy to primary union because the drain, no matter of what nature, occupies a certain amount of space where the margin of the wound cannot be brought together, and because the innocuous, aseptic exudations, capable of reabsorption but lost in case of drainage, may become the vehicle for microbes if through antiseptics should not be secured during the dressings. It is only in infected wounds or in wounds where the possibility of infection may be strong, that drainage is clearly indicated. It has long been customary to close smaller wounds without drainage; if accurate coaptation and asepsis can be secured in extensive wounds, and they can in most cases, the conditions for primary union are just as favorable in large as in small wounds.

In order to secure primary union without drainage, the ideal result, the following conditions may be considered essential: The wound must be left aseptic at the end of the operation by vigorous anti or asepsis during the course. All the minute details of antiseptics and asepsis must be fully mastered. Solutions of carbolic acid should not be used for irrigating as it corrodes the tissue, dissolves the occluding thrombi, and increases exudation. Perfect hæmostasis must be secured before the closure of the wound so as to reduce the pressure within the wound to a minimum. The wound must be accurately and firmly coapted and closed with tension, approximation and buried aseptic sutures, if necessary, in order to prevent the formation of any dead spaces in which fluids might accumulate. Finally, a suitable antiseptic dressing should be applied so as to exert equable pressure, and permitted to remain if no positive indication for its removal arise, until primary union has been secured.

Perhaps the dry operation of Landerer may be found especially suitable in cases where primary union without drainage is desired. (*Arch. f. Klin. Chir.* XXXIX-1. p. 216, 1889.)

Landerer avoided bringing any aseptic solutions in contact with the wound, which is dried with pieces of bichloride gauze and packed at once in those parts where the knife is not at work. Among many other advantages for this dry method of operating he claims rapid and certain healing, as the absolutely dry wound surfaces are peculiarly well suited for primary union.

Conclusions:

1. Primary union throughout the entire extent of the wound is one of the principle objects of antiseptic and aseptic surgery.

2. An aseptic wound needs no drainage.

3. The suppression of drainage simplifies wound treatment, reduces the chances of infection, and makes primary union of the whole wound possible if it be aseptic and correctly closed.—*North American Practitioner.*