redness were both absent during the entire attack of the spinal condition, although his temperature ran between 101 and 102 degrees.

The pain was exceedingly severe, even when the spine was in the most comfortable position, and rendered the patient quite helpless. Even after getting up from the above acute condition he was unable to dress or undress, as any movement of the spine either forward or laterally caused him to scream from pain. Almost immediate relief could be obtained by allowing the patient to support himself with his hands on the back of a chair, his legs being flexed and the toes lightly touching the floor. The pain could also be relieved to a great extent by an exaggerated erect posture, thus removing the superincumbent weight from the bodies of the vertebrae and placing it on the posterior portions of the spinal column.

Treatment.—The use of opiates and at times the above described positions relieved the pain to a considerable degree, but for permanent results fixation of the spine by mechanical means was advised. Dr. Rugh was asked to see the case, concurred in the diagnosis, and applied a plaster jacket while the patient was extended to full length by means of a tackle and pulley arrangement, the feet of the patient being allowed to touch the floor sufficiently to maintain steadiness and to bear a slight part of the bodily weight.

Course of Disease.—Two days after the cast had been applied the patient weighed 119 pounds, and in about a week he had gained five pounds. The pained expression on his face disappeared, the appetite improved, and sleep became more restful. There was no pain except when the patient inadvertently jarred himself, as in stepping down heavily or seating himself suddenly. The cast was worn constantly for about eight weeks, and then continued for a couple of weeks longer as a corset, being applied in the morning and retained in place by means of tapes passing entirely around the chest, and removed on retiring.

He made a complete recovery, there being no recurrences of pain, and when seen a year later he was in perfect health, his weight being 153 pounds.

Neither during his illness nor since have any nervous symptoms been observed; nor have any special nervous conditions been noted in other members of the family.

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DERMATITIS VENENATA DUE TO A PROPRIETARY HAIR-DYE

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OMAHA

I was called to see Mrs. E. W., November 4. For a week she had been treated for supposed erysipelas of the face, without benefit. The patient had a rapid pulse but normal temperature, the scalp and the face were much inflamed, of a dusky red, edematous, with a few scattered bullae. The eyelids were swollen and closed, the eyes injected, smarting and extremely sensitive to light. The patient complained of a burning sensation (but no pain) and of general restlessness which had prevented her from sleeping during the last three nights. Observations of mud poultices and some other dark, sticky, ill-smelling "patent medicines" had succeeded in matting her hair into a felt-like mass and in making her decidedly worse. I diagnosed the case as dermatitis venenata, but was unable to discover the cause at that time. Under appropriate treatment the patient recovered quickly and on November 11, I discharged her cured. November 21, I received another urgent call to see her and found her in the same condition as the first time. Close questioning elucidated the fact that on the previous day she had dyed her hair with "Mrs. Potter's Pure Walnut-Juice Hair-Dye, warranted not to contain lead, silver, opium, etc.," and shortly afterward felt a burning sensation in her scalp, which was followed in a few hours by her present condition. She also acknowledged that her former similar experience followed closely on her first trial of the dye.

A MODIFIED METHOD FOR THE SUBCUTANEOUS USE OF ARSENIC

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The hypodermic use of arsenic has long ago established itself as one of the best methods of administering this drug. The subcutaneous use of this medicament is preferable in all diseases in which a long-continued arsenic medication is indicated, particularly in those cases in which we have to deal with a pathologic gastrointestinal canal. The subcutaneous use of arsenic is preferable in certain affections of the skin, as in scleodermat, lichen ruber, and in a number of diseases of the blood, as in pernicious anemia pseudoleukemia, etc. The hypodermic method has the advantages, first, that the dosage is accurate; second, that the dose is smaller than that given by mouth; third, that it does not irritate the gastrointestinal mucous membrane; and, fourth, that toxic symptoms have rarely been noticed when the inorganic salts are used.

We are indebted to Ziemssen1 for one of the earliest and best modifications of the method of hypodermic administration of arsenic. The disadvantages of the previous methods, which mainly consisted in the simple injection of liquor potassii arsenitis (Fowler's solution), or of Pearson's solution, were the following: First, these solutions decomposed very easily; second, they were highly irritating to the subcutaneous tissue, so that in certain instances abscesses and even gangrene resulted. In order to counteract these disadvantages Ziemssen employed a 1 per cent. solution of sodium arsenite and attributes the advantage of his preparation in the fact that "it does not cause any or very slight irritation." I have used Ziemssen's solution in a number of cases, and while the results were excellent, I have found that the injections were attended with considerable pain, so much so, that in one case the patient avowed that "the cure was worse than the disease." I attributed the irritating effects of this solution to its strong alkalinity. In order to counteract the strong alkalinity I modified Ziemssen's solution as follows:

One gram of arsenious acid and 2.25 c.c. normal soda solution are boiled in 100 c.c. of distilled water until a clear solution results. This solution is filtered and enough distilled water added to make the filtrate weigh 100 gm. This 1 per cent. solution of sodium arsenite is slightly alkaline. The solution is kept in quantities of 15 c.c. in small sterilized Florence flasks, which are closed by sterile cotton stoppers. When alkaline solutions are kept for a long time in ordinary glass bottles a slight turbidity and sediment occur, due to the action of the alkali on the glass.

I tested the alkalinity of this solution in comparison with Fowler's and Ziemssen's and I found that 5 gm. of Fowler's solution required 1.2 c.c. of normal sulphuric acid solution to neutralize the alkalinity, and 5 c.c. of Ziemssen's solution required 0.48 c.c., while my modification required 0.23 c.c. of normal sulphuric acid solution. Litmus was used as indicator.

I have employed these injections in a number of cases and found that they are nearly painless; at the most they cause a slight burning, which sensation promptly disappears. I have never seen an abscess result from an injection.