SOME ADDITIONAL OBSERVATIONS ON THE ACTION OF ATROPIA ON SWEATING.

BY SYDNEY RINGER.

I made these observations, with the assistance of Mr. Johnson and Mr. Curtis, resident officers of University College Hospital, to learn the smallest quantity of atropia injected hypodermically required to check sweating.

We injected $\frac{1}{300}$ of a grain of atropia into the arm of a man aged 60, while he was sweating profusely in the hot chamber of the Turkish bath. In fifteen minutes the sweating became considerably less, but after nineteen minutes the perspiration returned abundantly, but less than before the injection. He perspired freely after the cold needle bath.

We placed a lad in a hot-air bath of 194° Fahr., and when perspiring profusely we injected $\frac{1}{300}$ of a grain of atropia. In five minutes the perspiration was decidedly less, and in ten minutes was very slight, but in thirteen minutes it again became profuse. Then we injected another $\frac{1}{300}$ of a grain, and in two minutes his face became perfectly dry, and remained so during the rest of the bath, i.e. ten minutes.

We next injected $\frac{1}{300}$ of a grain into the arm of a lad while sweating profusely in the hot chamber of the Turkish bath. Four minutes after the injection his body was quite dry, but subsequently slight moisture appeared on his forehead. After the cold needle bath, his skin remained perfectly dry.

Our next observations were made on patients troubled with profuse sweating, especially at night. The first patient suffers from a renal tumour, with discharge of pus in her urine. She was free from fever, neither was she very weak. The profuse
sweating caused her great annoyance. On August 30 we injected hypodermically \( \frac{1}{100} \) of a grain of atropia. This completely checked the sweating on that and the following night. On Sept. 1 she was sweating again very freely, and \( \frac{1}{500} \) of a grain was injected, which effectually prevented the sweating. The sweating, however, returned as freely as ever the following night, but on the four following nights her skin became dry, although this had never occurred previous to the employment of atropia. On the nights of Sept. 8th, 9th, and 10th she sweated as freely as ever. On the 11th, \( \frac{1}{500} \) of a grain of atropia was injected, and her skin remained dry during the whole night. The injection made her sleep sounder.

On many occasions we injected \( \frac{1}{500} \) of a grain under the skin of a woman suffering from advanced non-febrile phthisis, who sweated very freely on sleeping. On every occasion the atropia completely checked the sweating. Similar observations with \( \frac{1}{500} \) of a grain, and with equally satisfactory result, were made on a man with febrile phthisis.

Our observations lead us to conclude that \( \frac{1}{500} \) of a grain of atropia, injected hypodermically, is sufficient in most cases to check sweating for one night. Our observations are too few to determine whether after employing the injection on several nights the sweating can be relieved on discontinuing the treatment, but we believe that after a short course of this treatment the injection may be discontinued for a few nights without the return of sweating.

This treatment gave the phthisical patients better sleep, and we think allayed their cough; but unfortunately in most cases it caused very uncomfortable dryness of the throat.

Mr. Johnson assisted me in some experiments with stramonium. We found that, like belladonna, stramonium, subcutaneously injected, will very speedily check sweating, and produce dryness of the mouth. We noticed that while belladonna and stramonium checks sweating, they deeply flushed the face. Hence their influence over sweating cannot be due to their effect on the sympathetic ganglia thereby lessening the supply of blood to the skin, unless they can affect the blood-vessels supplying glands, while they leave unaffected the other vessels.