

Digitalis will do little or no good in cases like these. Brunton points out that by contracting the arterioles it causes increased obstruction to the circulation, thus throwing more work on the weakened and inefficient heart and hence he explains the bad effects of digitalis in fatty heart. Sometimes, indeed, it appears to control in a slight degree the palpitation and the paroxysms of dyspnoea; but it happens not unfrequently that the pulse grows both feeble and intermittent, an effect the author has witnessed in a case of great degeneration of the substance of the left ventricle. When it does relieve by controlling dyspnoea and palpitation, it effects no permanent benefit, for the other symptoms as dropsy &c. gradually increase, and the patient dies, life apparently not being prolonged by digitalis.

Before concluding these remarks, I ought to add that the administration of digitalis must always be to some extent experimental. It is easier to tell in what cases it will fail than in what cases it will succeed. It is impossible to know how much benefit it will confer or how long the benefit will last. It is not easy to tell the dose that may be required. Thus we meet with cases apparently in all respects identical with others that digitalis has wonderfully improved, to whom the drug does little or no good, or may even do harm, weak-

congestion of the lungs, distention of the right ventricle, and tricuspid regurgitation with dropsy. Mitral disease no doubt frequently follows aortic, but in most of these cases the dropsy seems to me independent of the mitral disease. For in many cases there is no mitral murmur during life, nor apparent mitral disease found after death, though it may be said the left ventricle becomes distended, and thus mitral regurgitation is produced when no pathological evidence of this will be found after death. But ordinarily the appearance of the patient with aortic dropsy, is very dissimilar from that of a patient with tricuspid regurgitation; with aortic dropsy there is waxy pallor and no fullness of the jugular veins. Thus in a case presenting such appearances without a mitral murmur during life, and with no disease of the mitral valve detectible after death, we must admit that simple aortic disease with a weak left ventricle, may produce dropsy without tricuspid regurgitation, nay even where mitral disease exists, the marked waxy pallor and the absence of fullness of the jugular veins would show that in most instances the dropsy is not due to tricuspid regurgitation.

ening the pulse and rendering it still more irregular. Where it does but little good, it appears to me that the symptoms are mainly due to the valvular affection, and do not depend much on the irregularity; where the medicine does marked harm, the left ventricle is degenerated.

Digitalis is a diuretic, acting directly on the kidneys as well as through its influence on the heart, it is, therefore, useful in some cases of Bright's disease. When it lessens the cardiac disease, its diuretic effects are astonishing. I have been led to believe that the diuretic action of digitalis is limited by the dropsy, for when the dropsy disappears the remedy no longer causes an increased secretion of urine. This also is the case with some other diuretics.

How does digitalis cause so great an increase in the quantity of urine in some heart diseases? First, it removes those kidney conditions secondary to the heart disease, which diminish the kidney function, then the unburdened organ acts as in health and secretes a natural quantity. But in the cases now referred to, we find the urine increased from, perhaps, half a pint, to three, four, or even eight pints daily. Is this excess of urine due to the direct action of the digitalis on the kidneys? If this were the true explanation, then this excessive secretion should continue as long as the digitalis is administered; but we find, as I have said, that when the dropsy has disappeared the kidneys no longer secrete in excess. Hence, the following must be the explanation of the very copious flow of urine. Digitalis relieving the heart, removes the conditions producing the dropsy, when the dropsical fluid returns quickly into the circulation, and this excessive quantity of water in the blood is separated by the kidneys.

Digitalis has been employed in the treatment of acute inflammation. Mr. King, of Saxmundham, held that no good was to be done in inflammation, unless with a large dose; and he gave from half an ounce to an ounce of the tincture. He asserted that with such formidable doses he could subdue most inflammations, if attacked at their very commencement, and before the organs involved became disorganized. He

administered a dose and then waited twenty-four hours to watch its effects; and if, at the expiration of the time, the pulse did not become much less frequent or irregular, he repeated the dose. He gave as much as two drachms of the tincture to a child of nine months old.

Vomiting sometimes quickly follows these very large doses. In the course of his extensive use of this drug in these heroic doses, Mr. King never met with serious or dangerous symptoms attributable to it. Aconite, it is believed, will be found far safer and better than these huge doses of digitalis in the treatment of acute inflammation.

Dr. Royston Fairbank finds digitalis useful in inflammations, employed both locally and internally. He narrates cases of acute inflammation of joints, acute inflammation of the leg from varicose ulcers, severe inflammation of the breast and of erysipelas, greatly benefited by fomentations, made by infusing a small teaspoonful of the dried leaves in half a pint of boiling water, or by adding a drachm of tincture to half a pint of boiling water, by means of flannels wrung out with this decoction. Sometimes, after simple hot fomentations he rubs in some tincture.

Digitalis will reduce the temperature of fever, though large doses are often required. This treatment is now freely used on the continent in all febrile affections, and doses are given which most doctors here would think highly dangerous.

In typhoid fever, Wunderlich recommends digitalis, asserting that in two or three days it will reduce the temperature of the body by 2° or 3° Fah., and will slacken the pulse, it may be, by thirty or forty beats in the minute.

Digitalis controls epistaxis, hæmoptysis, and menorrhagia. In cases of menorrhagia, unconnected with organic disease, this medicine, independently of the state of the circulation, is said to be more efficacious than any other remedy; and that when organic disease gives rise to this form of bleeding, the effect of the medicine is scarcely less manifest, although the advantage may be temporary.

The late Dr. Brinton highly esteemed it in bleeding from

the lungs, stating that when it reduced the frequency of the pulse the bleeding ceased. The infusion is to be preferred for hæmorrhages, and large doses may be required.

In rare instances digitalis occasions great strangury, with a desire, almost incessant, to pass water, accompanied by great and painful straining, and, in women, by strong "bearing-down" pains.

Few remedies are more successful in arresting spermatorrhœa than digitalis. A drachm or two drachms of the infusion twice or thrice daily is generally sufficient. The free application of cold water to the testicles and perineum aids the effects of the medicine; and it is a useful practice to let the testicles hang in cold water night and morning for five and ten minutes at a time.

The late Mr. Jones of Jersey, excited considerable astonishment by the announcement of the good effects he obtained from very large doses of tincture of digitalis in the treatment of delirium tremens. He recommended the administration of half an ounce of the tincture to be repeated if necessary in four hours; and should no effect be produced, again in six hours; and afterwards if needful the medicine may be continued in two-drachm doses. Mr. Jones says of this treatment, "the pulse, so far from being lowered in force, becomes fuller, and stronger, and more regular, soon after the first dose. The cold clammy perspirations wear off and the skin becomes warmer. As soon as the remedy produces its full effect, sleep for five or six hours commonly follows. Sleep is the guide to the repetition of the dose. No action on the kidneys is evinced by an unusual secretion of urine. Sometimes the bowels are acted slightly on, but not commonly." Mr. Jones never saw any alarming symptoms follow the use of these large doses, although he treated in this way about seventy cases of delirium tremens. It would appear that he adopted this treatment only in the severer asthenic forms of delirium tremens.

With regard to this treatment of delirium tremens, the following conclusions appear to be established:—

1. The medicine may be given in the manner directed without danger.

2. That it very often does good, producing speedily in most cases, refreshing, quieting sleep; and even when it fails to induce sleep, it generally calms undue excitement.

3. That some cases appear to be uninfluenced by the drug. It yet remains, however, to ascertain the forms of the disease amenable to digitalis.

There can be no doubt that under this treatment some severe asthenic cases, in which, on account of the great prostration of strength, death seemed imminent, have rallied astonishingly and ultimately recovered. The evidence of this is too strong to be disputed. Under the influence of digitalis, the weak, rapid, and fluttering pulse grows strong and steady; the skin comfortably moist and warm; while, with the improvement in the circulation and state of the skin, the general condition of the patient has mended. On the other hand, it appears equally certain that the sthenic forms of the disease are also amenable to this drug. In several instances the author has seen this disease yield speedily to these huge doses of digitalis; but on two occasions the patients suddenly fell back dead, although, to the moment of death, no warning occurred of this sudden and untoward termination. Whether in these instances death was to be ascribed to the digitalis or to the disease, it is impossible to say; for it is well known that delirium tremens, however treated, ends sometimes suddenly in this fatal manner.

---

TOBACCO.

A poultice of tobacco leaves is said to relieve pain, and an ointment, made by boiling half an ounce of tobacco in eight ounces of lard, kept constantly applied to the breasts, is said to arrest the secretion of milk. In this respect it is probably inferior to belladonna (*vide* Belladonna).

Several deaths having occurred through the application of tobacco to the abraded skin, it must be applied externally with caution.

Tobacco dilates the pupil when introduced into the eye, or when taken by the stomach.

Tobacco produces nausea and sickness, accompanied by great weakness and faintness. It confuses the ideas, dims the sight, enfeebles the pulse, and makes the skin cold and clammy with profuse sweating. Owing to the prostration, it removes spasm; and tobacco in the form of clyster, or administered by the stomach, has been employed in colic of the intestines, and in strangulated hernia; but in spasmodic diseases it is quite superseded by chloroform. Tobacco-smoking excites an abundant secretion of saliva; hence some persons maintain that tobacco-smoking aids digestion. Smoking acts on the intestines as a slight purgative, and no doubt a pipe or cigar smoked after breakfast is often sufficient to ensure an easy and satisfactory relief of the bowels; and is a practice not without advantage for persons troubled with habitual constipation.

Smoking in excess is, no doubt, a very harmful habit; it disorders digestion, greatly lessens the appetite, produces much restlessness at night, with disagreeable dreams, and weakens both mind and body. Chronic pharyngitis, the mucous membrane looking like dirty-red velvet, with constant hawking, and also chronic dyspepsia, may in some instances be clearly traced to smoking in excess. Even amaurosis is said to be sometimes produced by excessive smoking. The habitual smoker has generally a thickly coated tongue. The symptoms produced by excessive smoking soon cease when the habit is discontinued. The evil consequences are much less marked if the tobacco is of good quality, and contains but little nicotine. In the cultivation of the tobacco plant, it is a point of importance to develop much of the aromatic principles, and but little nicotine.

At present it has not been satisfactorily determined what structures tobacco affects. Kölliker teaches that (1) nicotia