SMALL DOSES OF ANTIMONY IN INFLAMMATIONS.

Extract from a report of the Civil Med'. Department of His Highness the Nizam's Govt. for 1888 (1297 Fasli).

BY SURGEON-MAJOR E. LAWRIE,
Residency Surgeon, Hyderabad.
AFZALGUNJ HOSPITAL.

IT only remains to consider briefly the use of small frequently repeated doses of antimony to arrest inflammation. In the report for 1294 Fasli (1885), attention was drawn to the fact that Dr. Kent Spender, of Bath, had pointed out in the March 1885 number of the *Practitioner*, that antimony in frequently repeated small doses $\frac{1}{6}$th of a grain of tartar emetic, every hour or two hours, has the power of completely dissipating early local inflammations. Acting on Dr. Spender's suggestion, the treatment of surgical inflammation by antimony in small doses, frequently repeated, was commenced in the Afzalgunj Hospital in May 1885. We have gradually extended its use, and have now come to look upon it as one of the most valuable drugs we possess, and as useful in local inflammations as quinine is in malarious fever. It prevents and arrests inflammation, if this is not originated or kept up by a specific or septic cause. There is nothing new in the employment of antimony to arrest inflammations, but all Lauder Brunton* says about it is:—

* *Vide* "Pharmacology, Therapeutics and Materia Medica," by T. Lauder Brunton, page 726.

"For its diaphoretic action, antimony has been used to arrest inflammations, such as catarrh, and to check febrile conditions; for this purpose it is not infrequently given as tartar emetic, in doses of $\frac{1}{16}$th grain frequently repeated, or as James' powder." There must be more than the diaphoretic action in the effect which antimony in small frequently repeated doses has upon inflammation, though at present it may not be understood. But it is not yet understood how it is that the well-known tolerance of antimony sets in after the drug has been administered several times, either in large or small doses, nor is it understood how it is that antimony increases the frequency of the heart's action. There is something about antimony which requires to be worked out, and in my opinion, it will well repay anybody who has the time to do it, to thoroughly enquire into the action of this drug on the system in health and disease. In all inflammatory diseases, which are not of a specific nature, antimony is always used in the Afzalgunj Hospital. It may be given without fear of causing nausea and diarrhœa or depression, even in diseases where its use would appear to be contra-indicated. For example, during the last year we have employed it with unfailing success in mucous enteritis, which is of all diseases the most fatal to children in the plains of India. In these cases it arrests the diarrhœa and fever when nothing else will. On the other hand, we have employed it lately in the treatment of typhoid fever, and have found that it cuts the disease short with such certainty that it almost appears doubtful whether the lesion of typhoid is specific or is not rather incidental or adventitious. In typhoid fever, no less than in mucous enteritis, the diarrhœa depends upon an inflammation of the intestine, and though at first sight it might be thought that antimony would increase the diarrhœa, it actually stops it, for the simple reason that it arrests the inflammation which causes it. I have had great difficulty in making the hakims in the Nizam's service use it, on account of the impression which prevails that antimony lowers or depresses the heart's action. * But it has no lowering effect unless it is pushed so far as to cause its own peculiar nausea and diarrhœa. On the contrary, it increases the frequency of the heart's action, while slightly lowering the blood pressure. Tolerance of the drug is very soon established, it can be administered with cardiac tonics, and there are few, if any, cases which are susceptible of benefit by it in which it cannot be employed in sufficient quantity to do good without any fear whatever of inducing depression.

THE FEVERS OF BHAMO.

BY FRANK BLAKE,
Assistant Apothecary, in Medical Charge, Station Hospital.

AN unusual outbreak of malarious fever having come under observation in this hospital during the past monsoon season, I am induced to afford some particulars which may be of interest to readers of the Gazette in general, and to those in particular whom duty may bring hitherward. It may not be superfluous to preface

* I was lately attending the sister (aged eleven) of one of the hakim's (doctors) in His Highness's service during an attack of typhoid fever. I ordered her the wine of antimony in 10 minim doses every hour, but I could not persuade the hakim to give it regularly, or even frequently, on account of the unfounded dread which he entertained of its depressing effects, and the girl got steadily worse until the 19th day. After seeing her in the morning of this day, I received an urgent message about noon to say she was dying. I at once went to her, and found her almost *in extremis*, the belly was very tympanitic, and the diarrhœa continuous and involuntary, the temperature 105·020, the pulse over 160, and almost uncountable, and she was in a low state of delirium. I knew I could not persuade the hakim to give her antimony and felt sure she would die without it. I therefore prescribed a strong stimulating mixture containing strophanthus, æther and ammonia, to be given every hour; but I sent word privately to my dresser to add fifteen minims of antimonial wine to each dose. An English nurse was nursing the girl, and as the hakim thought the mixture contained no antimony, he and the nurse together gave it regularly every hour. The effect was magical, and after 12 doses all the symptoms gradually abated and the child recovered. She took the 15 minims of antimonial wine, grain $\frac{1}{16}$th of the tartar emetic, every hour, until she was completely out of danger, and had altogether, 12 doses.

my remarks with a brief sketch of the physical feature of Bhamo and its immediate vicinity.

This our frontier station is situated on the east bank of the Irrawaddy, and distant I believe about 800 miles from the mouths of the river. Taking your stand on a commanding position the country around appears a basin encircled by range of hills, of varying heights from a few hundreds to thousands of feet and covered with dense vegetation; along the floor of this basin the great Burman highway wends its way. The expanse on land shut in by the hills is markedly undulating in character, being a succession of ridges of varying heights overlooking ravines, extensive swamps and lowlying places choked with vegetation. Every square yard of soil is covered with a hundred botanical specimens vieing with each other in luxuriance of growth. The hills and as it were the sides of the basin are drained by small streams all tributary to the Irrawaddy.

Soil.—Surface soil of stiff clay of a flinty hardness in dry weather and from its nature calculated to retard percolation. Subsoil contains an admixture of lime.

Climate.—From May when the rains break to October at their close the climate is trying in the extreme; now damp, steamy and depressing with a temperature of about 85°F., now with a bright scorching sun and a rise of the mercury to 100°; now close and 'muggy' with a cloudy sky, to be followed in a few hours by thunderstorms that may herald a welcome downpour, or blow off, leaving disappointment. In July, August and September the rains are at their heaviest and sickness is in proportion. Your skin will not act with regularity, liver needs spurring, bowels too apt to get disordered, and digestion at a low degree of activity. With the advent of November a metamorphosis seems to take place in surrounding nature; the bracing cold mornings, pleasant days and pleasantly chilly nights are sufficient to induce a new comer to pronounce the station a sanatarium—"The Bangalore of Burma."

Water-supply—The troops in garrison use water drawn from wells, which under analysis has proved satisfactory. The river supplies water mainly to the town and is sewage-tainted. The native town proper stretches along the east bank of the river for about a mile and a half, and consists mostly of bamboo huts. Since our occupation excrescences on this original growth have developed in the form of nondescript erections, police lines, civil public offices, private dwelling-houses, &c., all more or less displaying greater ingenuity in the adaptation of material for sheltering than engineering skill or stability of construction. All too are located with an old fashioned reverence for convenience, and supreme disregard for aught else. Scattered among these are kyoungs, yats and pagodas by no means improved in appearance by our occupation, malodorous ditches, stagnant pools with verdant surface and abandoned pestilential brooks, filthy gutters choked with accumulated abominations, a slaughter house or two where the Commissariat 'byle' and Chinese pig wail their last reminiscence of civilised man, and last but not least latrines private and public, chiefly the former—by repute—but partaking much of the nature of the latter.

Population.—Originally consisting of Burmans, Shans, Chinese and Kachins innocent of sanitation, has now engrafted on this innocence that of various races of India to be found between Peshawar and Cape Comorin.

Adjoining this delectable spot we have chosen a site for our troops: a walled enclosure of very limited area, studded with buildings and crowded with animal life in such manner as excusable only in a newly-acquired frontier station I suppose. This enclosure is exposed on every flank to swamp, marsh or jungle. North of this, distant about 2 miles, and situated nearer the river's bank, is another and smaller fortification with like sanitary conditions as the larger but more immediately exposed, during the periods the stream subsides, to emanations from the latter's bed. Fever is an established scourge here also.

A half battalion of the 2nd Cheshire Regiment arrived in Bhamo on the last day of November '87, and except a detachment of 50 men that were absent till the following March on column duty, the remainder lay in quarters till the departure of the corps for home a year later. The men enjoyed excellent health till the middle of May, when with the first fall of the rains the admissions for for fever became marked, and steadily increased till by the end of October the individuals who had escaped might be counted on the fingers of one hand. The disease had played such havoc with them that it were doubtful if there were 20 men left of the half battalion at this time who were in a fit state to complete an ordinary march of ten miles. The average strength was 340. The number of admissions from April to November was 677 for fevers alone.

The few cases admitted before May exhibited in their nature a marked contrast to those attacked after the setting-in of the wet season; for whilst the former were characterised by a mildness throughout their course, the latter by the severity and pronounced train of symptoms would seem to have been types of palludal fever, which if not peculiar to were nevertheless well established in the locality—a circumstance that, I opine, might be accepted as a criterion of the virulence of the poison. Amongst the natives "Bhamo fever" is as much a recognised

and feared scourge as is Peshawar or Wynad fever in those localities.

The disease manifesting itself by the appearance of symptoms so distinctly grouped together may be divided into different varieties.

I. *The Bilious.*—Here the most prominent symptom is bilious vomiting, the quantity of matter ejected being remarkable. The expression of the patient is essentially one of acute distress and helplessness. He complains of severe frontal headache. From vertigo he reels like a drunken man, and sometimes expresses himself as being "blind." He refers to racking pains over the body generally, and chiefly across the loins. Harsh dry skin, persistent bitter taste in the mouth, offensive breath, and a dirty yellow tongue. Thirst that he finds difficult to relieve, owing to excessive irritability of stomach. Often with vomiting, large bilious stools are passed. The temperature rarely exceeds 104° mostly reaches 102°. Soon the eyes become suffused and face bloated from the efforts of vomiting. Pulse full and bounding. Patient lies with his eye shut intolerant of light. Influenced by treatment the attack passes off in from 48 to 72 hours. Profuse diaphoresis sets in and lasts from a few hours to a complete day or more; in the latter case leaving a cold, clammy, soddened skin and a feeling of weakness. Indeed, though there may be little or nothing in his appearance to indicate it, yet the patient expresses himself as feeling so weak as to be incapable of undergoing exertion.

II. *Intermittent.*—Treacherous in its attack, "snapping" up its victim without warning in the midst of pleasure or duty. In a few cases only has violent rigor been observed. In the majority a mere succession of chills, followed by a well-marked hot stage. Indeed, it is characteristic of this variety of fever here that the hot stage has a tendency to become dangerously pronounced and suggestive of heat-stroke: 106·4° is a commonly registered temperature, and in one fatal case it twice rose within 24 hours to 108°. Nevertheless the amount of suffering is little compared with that obtaining in the bilious variety. A headache more or less severe may be complained of, but it is one referable more to a sense of heat than the "throbbing," "splitting" pain of the bilious variety. The patient lies in bed well wrapped up though sometimes expressing himself as being "red-hot" but with no anxious countenance. The pains in the limbs are not distressing if at all present. He feels thirsty and drinks freely without fear, for he can retain what he drinks—a disinclination to move in bed so that he may not get the "chill that creeps all over me." Restless tossing and groaning are absent. Instead of depression of spirits there is rather by contrast a hopefulness that the attack will "soon pass off." With the advent of the sweating stage the bright look in the eyes becomes brighter, spirits more buoyant, and he looks forward hopefully to the near enjoyment of food and the inevitable pipe. With the cessation of the sweating stage the man is well to all appearances. Of this variety, the quotidian type has been the most frequent. It is surprising to note how men will go on for days and weeks having these attacks and continue at their duty. An occasional purge or dose of quinine may be applied for at the hospital, the man never seeking admission till some complication of liver or spleen drives him to the necessity.

III. *Choleraic.*—Here the attack begins suddenly with vomiting and purging, followed by cold, clammy perspiration and collapse. At first there is a slight rise of temperature but soon the patient assumes the appearance of one in the algide stage of cholera, and the temperature falls below normal. Vomiting of colourless fluid and rice-water stools, which before long become stained, more or less, with blood, giving them the appearance of gruel stained with wine. Later blood alone is voided. Husky voice, cramps in the extremities, &c., in short all the symptoms of cholera are present, except *the suppression of urine*, which first rouses the suspicion that the graver malady is but simulated; or is this but a milder form of the latter?

IV. *Icteroid*—The patient within 48 hours of feeling ill, generally without pronounced fever, becomes rapidly jaundiced. The temperature keeps below 104°. No liver symptoms are complained of. Sickness of stomach and constipation invariably present. The patient complains of restless dreams, disturbed nights and total loss of appetite. The intense discoloration of the urine leads the patient sometimes to give expression to a suspicion of the presence of blood in the fluid. The rise and fall of temperature is irregular. Pain in the head confined to no particular region. A sense of heaviness in the eyeballs that leads the patient to press them from time to time with the tips of his fingers as if that would give relief. The jaundice persists as long as there is an abnormal temperature. In one fatal case the discoloration was so deep as to suggest yellow fever. The patient died on the sixth day after admission comatose.

V. *Remittent.*—Proved very fatal last year, the sufferers succumbing from within three to seven days after admission.

Character.—Temperature of 100° or 101° in the morning, gradually rising to its maximum of 104 or 104·2° by 6 P.M. Nocturnal dilirium of a wakeful restless character, prompting the patient to rush out of bed impetuously; absence of all pain or tenderness in abdomen; no tendency to relaxation of bowels, and a fair toleration of food and drink. When uninflu-

enced by treatment delirium deepened into coma that preceded death by a few hours. When recovery took place, this was always tardy, and stamped a predisposition to attacks of fever and the ultimate establishment of malarial cachexia.

Remarks.—In seeking for a cause other than the inexplicable 'malaria' to explain the sudden outbreak of fever during a certain period of the year in a place healthy at other times, the temptation to theorise is great, yet I have no desire even if I possessed the ability to do so. I will merely mention a few facts.

1. With a rise to its maximum of atmospheric temperature and the first rainfall in May, both coeval events, the first cases of "Bhamo fever" (I use the term for convenience) occur, and they are almost exclusively of the bilious class, but of a comparatively mild nature. With the increase of rains, the increase in the number of cases is in direct ratio; so is the increase in their severity. Up to August there is a preponderance of bilious cases; subsequently of intermittent.

2. When attacks have become chronic, the intermittent phase takes the place of the early bilious.

3. Men who because of duty or other causes were most exposed to the sun suffered most and worst. There was not much direct exposure to rain for obvious reasons. The percentage of admissions and deaths was highest among non-commissioned officers, especially lance corporals.

4. Drink has been the direct exciting cause of a first attack as well as of subsequent ones.

5. Men in hospital, free from fever for weeks, and discharged 'cured,' have had relapses after partaking of a *single meal* of barrack rations *without* the supplement of canteen supplies.

6. The civilian population living outside of the forts, and exposed to all and more of the insanitary conditions affecting the soldiery, both European and native, suffered less.

7. Building operations have been active for the past two years in the two forts; diggings and counter-diggings, drains, and embankments &c.

8. Nothing has been observed to prove that men of strong, resist the disease more effectually than men of weakly constitutions.

9. Total abstainers have enjoyed no greater immunity than temperate men; but intemperance has paid the highest penalty in suffering.

10. Instances have been noted where quinine taken regularly as a prophylactic has kept fever effectually at bay during the season.

11. Paroxysms of the disease were noted to have their periods of quiescence or activity according to the state of the weather. Thus the number of individuals attacked on a thoroughly wet or succession of rainy days was at its minimum; the maximum being attained on days with a scorching sun, hazy sky, "muggy" atmosphere.

Treatment.—The administration of an ipecac. emetic has been found invaluable in relieving the distressing vomiting in bilious cases, in mitigating the head symptoms and inducing diaphoresis. In some cases where toleration of the drug existed, and no emetic action followed, its beneficial effects were still felt by its action on the bowel. Indeed so much did an ipecac. emetic become appreciated that, where for reasons it was withheld, patients themselves would boldly ask for it with perfect confidence of its benefit. Calomel and jalap purge, diaphoretics and small doses of quinine.

In the choleraic cases stimulants with opium, local application of warmth and liquid nourishment in every instance restored reaction and brought about recovery.

The icteroid cases were brought under repeated doses of calomel and saline purges, diaphoretics and small doses of quinine.

Medical treatment seemed to have little effect on the remittent type, fatal cases succumbing within a few days of admission, and the others making tardy recoveries, chiefly under careful nursing and feeding.

In chronic ague small doses of quinine arsenic and iron were resorted to, but with little or no appreciable permanent effects for good. As long as men remained in hospital where rest and regular living had their due weight, the fever attacks would cease, but a return to duty and barracks was sooner or later followed by a recurrence of the disease. In a large percentage of cases where the disease had become as it were established in the system, nothing would ward off a periodical attack which occurred in an average once in ten days even in hospital. Once the malarial cachexia became established, quinine seemed to be inoperative.

More salutary in its effects however, was change of air. A batch of 30 fever-stricken subjects were sent down the river to Pagan. In two months they returned fresh-looking and robust, but unfortunately to again pass back before long to their former frosty appearance.

Of the value of quinine as a prophylactic there can be no two opinions I think. Hence in localities like this where whatever unappreciated factors scientifically considered are presumed to exist, but where we see certain climatic conditions suddenly brought into play producing very appreciable and definite results, *e. g.*, fever, to counteract these is the first indication. If quinine is of any good notwithstanding the fact that fever has found an inroad into the system, its value is enhanced a hundred-fold before that occurrence; and for this reason its issue to the healthy on the principle that prevention is better than cure would be to say the least a measure of economy in the end.

Where fever is of distinctly malarial origin, whatever its phase, I have little faith in tinkering doses of quinine. A few large doses bring the system better under the control of the drug—a control adverse to that of the disease—than small doses whose effects if felt are mostly transient.

Notwithstanding the severity and frequency of attacks in the same individuals, enlargement of the spleen—that is enlargement to a degree to be easily detected—was comparatively rare. Indeed, I am disposed to believe after an intimate acquaintance of many years with malarial fevers, that Europeans do not suffer so frequently from this complication, or rather that the organ does not undergo permanent enlargement so readily as in the native of India. The latter with his poverty of food, his limited choice of the same, and his more marked inability to recover from the effects of repeated attacks appears to be more susceptible. Slight hepatic enlargement was observed in some of the fatal cases of remittent fever; but this was not a marked symptom generally.

On the whole the mortality was small, being but nine. Seven cases of remittent, one icteroid and one malarial cachexia, the last complicated with cardiac disease. One case of fatal remittent exhibited a striking peculiarity, inasmuch as the patient may be said to have literally sweated himself to death from sheer paralysis of the vasomotor centres. This was a man of robust constitution. No history of syphilis.

A Mirror of Hospital Practice.

RHINOPLASTIC SURGERY.

By SURGEON D. B. SPENCER, 12th K. I. G. REGIMENT.

CONSTABLE HEERAMUN, of the Betul police, Central Provinces, was admitted into hospital for nose-cut on the 8th July 1888.

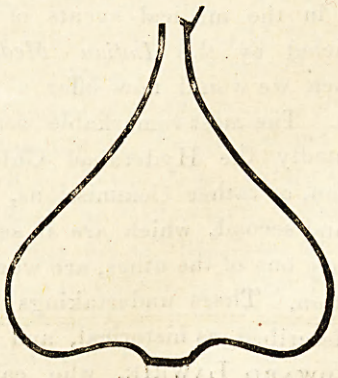
History. — He was out patrolling in the district when suddenly he came upon the notorious Bheel dacoit Tantia's party. He was seized, held on the ground, and had his nose deliberately taken off with a sword.

When admitted two days after, the bleeding had entirely ceased. The whole nose, with a portion of the middle of the upper lip, was destroyed.

On the 10th August — a little over a month after receipt of injury—he was put under chloroform, a hypodermic injection of ⅓ grain of morphia having been previously administered. The usual flap operation was performed, the flap being taken obliquely from the right side of the forehead. The pericranium was left intact. The operation was very successful, the patient recovering without a bad symptom, and a good nose was formed.

Figures 1 and 2 show the appearance of the patient before and after the operation. The wound of the upper lip filled up by granulations. An attempt was made to form the columna nasi with this new formed cicatrical tissue of the upper lip. It was unsuccessful. The absence of the columna nasi did not, however, appear to be of much consequence. I saw the patient six months after his discharge from hospital. A small circular aperture, about the size of a four-anna piece, marked the entrance of the nostrils. There was no difficulty in breathing, and hardly any deformity was noticeable.

Remarks. — It is not necessary to enter into the details of the operation. They are fully described in Ericksen's "Surgery." One or two points may be noticed. First, it will be found advantageous to give a hypodermic injection of morphia (¼ to ⅓ grain) about an hour before giving chloroform. This has the effect of prolonging the anæsthesia — an important point in an operation which takes a long time. In fact, in all major operations which are likely to last for any length of time, an injection of morphia will generally be found very useful. A full dose must be given. Less chloroform will be used and the patient will take it better. Another point to notice is that the flap should be dissected off the forehead, not all at once but by degrees. Small cuts, about an inch long, should be made at a time, and the bleeding arrested by firm pressure before the next cut is made. In this way the bleeding, which otherwise would be free, will be kept well under control, and the vitality of the flap will not be injured. The supraorbital and frontal arteries will require ligature. After the operation the nose should be gently but well plugged, otherwise the patient will involuntarily breathe through the nose during sleep; a little air will thus pass through the nose, and this will interfere with that perfect rest and juxtaposition of the parts which is essential for union. Lastly, to get the proper shape and size of the flap will always be a matter of some difficulty as long as there are no two noses exactly alike. The method I adopted to obviate this difficulty was to cut a piece of thick brown paper into this shape, about three inches long and three inches broad at the base. The paper was then held over the stump and pared off bit by bit till the proper shape and size of the flap were fashioned.



BENARES,
1st *December* 1889.