

PRACTICAL MEDICINE.

ON THE CAUSES OF SPASMODIC ASTHMA.

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The causes of spasmodic asthma may be divided into local and general. By local I mean where the exciting cause directly irritates the mucous membrane of the lung. By general I mean where the cause is more distant and less direct in its action, often taking a somewhat circuitous route to reach the lungs, as when the irritation of the abdominal sympathetic causes a fit of asthma, or when it is induced by the acid state of blood circulating through those organs. The subjoined table enumerates the principal varieties.

I. Local (acting directly on the lungs).	Dust. Vegetable irritants. Chemical vapours. Animal emanations. Climatic influences. Bronchial inflammation.						
II. General (acting indirectly on the lungs).	<table border="0"> <tr> <td style="vertical-align: middle;">Through nervous system</td> <td style="vertical-align: middle;"> Centric. Excito-motor. </td> </tr> <tr> <td style="vertical-align: middle;">Through blood</td> <td style="vertical-align: middle;"> Gout. Syphilis. Skin diseases. </td> </tr> <tr> <td colspan="2" style="vertical-align: middle;">Heredity.</td> </tr> </table>	Through nervous system	Centric. Excito-motor.	Through blood	Gout. Syphilis. Skin diseases.	Heredity.	
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In the first division, the most simple in their action are the various inhalations. We know that phthisical induration of the lung can be caused by the inhalation of fine, solid particles, as in the consumption of needle-pointers, dry-grinders, stone-masons, colliers, and copper-miners, and the question naturally arises why is it that one form of dust causes the lesser evil, asthma, and another the greater evil, phthisis? The key to this is to be found in the nature of the particles inhaled, and the depth to which they penetrate into the lungs. The dust of threshing-floors and of bakehouses is light, and probably never sinks deeper than the epithelium; while the dust inhaled by grinders, colliers, and others, being heavier, penetrates beyond the epithelium into the lung-substance, irritating and giving rise to inflammatory processes in its neighbourhood. This has been proved in the case of colliers and copper-miners, and the mineral particles detected microscopically in the lungs.

Dust.—Common roadside dust, the fluff from woollen clothing, the dust of threshing-floors and mills and bakehouses, or any mechanical particles, when inspired, will evoke an asthmatic fit in some persons. Among old clothes-men, wool-carders, sellers of furs, and notably among millers and bakers, the disease is very common.

Vegetable irritants.—We know that certain plants have a powerful effect, as, for instance, *ipecacuanha* and some of the grasses. The well-known hay asthma, which prevails in the hay season, is attributed to the inflorescence of certain of these, especially to their pollen. In England the *Anthroxanthum odoratum* and the *Nardus stricta* are blamed, but in Germany the rye, the *Lolium perenne*, as well as the *Nardus stricta*, are accused. It appears, however, from the recent researches of Mr. Blackley, that the pollen of a large number of plants, belonging to no less than thirty-five natural orders, is capable of pro-

ducing this complaint. Mr. Blackley, who is himself subject to this disorder, and thus has opportunity for experiment always at hand, finds that he can produce hay asthma in the following ways:—1st, by applying the pollen to the mucous membrane of the lips, nose, fauces, or tongue; 2ndly, by inhaling it; 3rdly, by wetting the conjunctiva with a solution of it; 4thly, by inoculating moistened pollen into the limba. He states that when the pollen is moistened it is seen under the microscope to swell up and discharge its granular contents, and he suggests that after the commencement of hay catarrh, the large amount of fluid poured out into the nasal passages tends to increase and perpetuate the disease, by acting rapidly on the pollen which continues to be brought into contact with the irritated mucous membrane. He found, too, that the granular matter could be made by dialysis to pass through membranes thicker than those lining the bronchial tubes and air-cells, and he therefore concludes that it may in some cases pass through the mucous membrane of the air-passages, and, entering the circulation, give rise to the constitutional symptoms sometimes developed. His experiments demonstrated clearly the presence of pollen in the atmosphere, especially in the month of June, and his own symptoms were in direct relation with the amount detected in the air. I think these experiments leave no doubt as to the causation of the disease; and its prevention or cure by removal to the sea-side, away from vegetation, confirms this.

Chemical Vapours.—The inhalation of certain gases and chemical vapours, such as sulphurous acid, the smoke of pitch or of a recently extinguished candle, the fumes of an ignited lucifer match, may also be excitants. I have seen an attack brought on in an asthmatic person from simply passing through the copper-smelting district near Swansea in a train, and, again, the atmosphere of some leadworks had a similar effect on some of my patients.

Animal Emanations.—In some rare instances the attack may, according to Dr. Salter, be induced by the smell of certain animals, as of dogs, cats, hares, and even sheep and horses. Among the remarkable examples he gives is one of a circus proprietor who was always affected with asthma in the presence of horses, until having made his fortune he retired, and found that, with the relinquishment of his business, he had happily taken leave of his troublesome complaint, which, however, always returned if he visited the stables. Another instance was that of an American gentleman who was always affected by the presence of dogs or cats, and could even detect that they had passed through a room by the state of his breathing on entering it. A third case was that of a country clergyman who was rendered asthmatic by the neighbourhood of a hare or hare-skin. This peculiarity converted him into a remarkably keen gamekeeper, for if he met any of his parishioners who had been poaching and had their booty about them, he could always in this way detect it.

Climatic peculiarities are generally credited as the commonest causes of asthma. Cold, whether

dry or damp, if intense, is generally an exciting cause, though during the paroxysm a very low temperature is borne without any risk. Facing a strong wind will sometimes evoke an attack, as I remember witnessing in a lady who had been walking scatheless with her back to the wind. On her turning round and facing it her breathing immediately became difficult. Great heat is also complained of, but more in the way of general dyspnoea than spasmodic. Transitions of temperature are nearly always trying, as when an asthmatic descends from an Alpine height into a hot, close-valley an attack often occurs the first night of sojourn in the lower region.

Owing to the numerous exceptions which every law of localities suitable for asthma admits of, it is hardly safe to say that there is any law; yet in a very large number of cases dampness whether of soil or of atmosphere, or whether combined with heat or cold, is the asthmatic's great enemy and the relief that he experiences on reaching a dry locality is often striking. Another common condition is closeness and want of a proper circulation of air, such as is found in deep valleys abounding in rank and, as a sufferer informed me, oppressive vegetation. These are the hot-beds of asthma, and it would not be difficult to furnish instances of their action.

It is remarkable the great dislike that many asthmatics have to trees around their dwellings. One will not pass through a wood on any account; another perches himself up on a high, bare down, so as to live above all trees, and delights in a barren country like a sand desert.

Thundery weather affects some, and many asthmatics can foretell the atmospheric storm by their own tempestuous sensations. Among the causes of asthma, one least dwelt on by writers is malaria, and yet it is well known to travelling asthmatics, and in many instances the circumstances of the attack preclude any other explanation of its occurrence.

(To be Continued.)

OBSTETRICS.

GALVANISM IN POST-PARTUM HÆMORRHAGE.

Mr. Storrs, M.R.C.S., of Doncaster, contributes to the *Lancet* the following case, which he considers of interest to the profession as furnishing a mode of treatment for the great opprobrium of the obstetric art, which, if not new, is far from being so widely employed as its numerous advantages would appear to indicate.

On June 24th, 1873, I was sent for to see a patient in labour, suffering from convulsions. The convulsions came on during the first stage of labour, and could only be checked by keeping her under the influence of chloroform for some time. Failure of uterine action occurred before the os uteri was fully dilated; but as it was sufficiently dilatable, the forceps was introduced, and delivery accomplished. Still the uterus did not contract, and after the placenta was removed, hæmorrhage could only be restrained by keeping the hand within the uterus. Grasping and kneading the uterus, cold affusion externally, and injections of cold water per vaginam produced no effect. A