

A STUDY OF BELLADONNA

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INTRODUCTORY REMARKS

The teaching of Homoeopathy has to be different today from the teaching method at the time when most of our materia medica books were written. In Hahnemann's time physiology and pathology were practically non-existent and Hahnemann was justified in giving in his provings only the single symptoms without regard to their physiological relationship. This, however, makes the study of the homoeopathic materia medica unnecessarily difficult in the light of our modern knowledge of drug actions. The author, a graduate from an allopathic school, who studied Homoeopathy by himself, encountered all the more the difficulties arising from the old-style presentation of our drugs. In the following the task is undertaken to present a well-known drug of our materia medica in a manner which should make it easier to understand the drug and to impress its picture upon the memory of the student.

CHARACTER OF THE DRUG

When you think of Belladonna think of the maniac it produces in its extreme effect who displays all the typical reactions, brought forth by this plant, and you have its character in a nut shell.

The maniac is unrestrained, unpredictable, violent. So is Belladonna as a whole as well as in all its single features, and in every field of its activity. Mentally, an 'angel when well,' it suddenly turns into a 'devil when sick.' Extreme mirth changes suddenly into extreme rage. Physically, all its symptoms appear suddenly, break out violently, unpredictable, when and where they change, and they disappear suddenly. Pain comes and goes with the greatest suddenness and intensity. Profuse sweats evaporating from the burning hot skin, disappear as suddenly as they break out. Fever rises rapidly in the afternoon and evening and drops rapidly in the morning hours; there is never a continuous fever curve. Illness comes on like a lightning stroke out of a blue sky. The 'maniac character' is impressed upon the whole picture and each single symptom.

PERSONALITY OF THE DRUG

The Belladonna type looks usually vigorous, but has a lymphatic lue like his chronic counterpart Calcarea and on a soil enriched with it the plant grows best. He has a fine complexion, a delicate skin, easily flushed by the blood rushing to the head, producing a somewhat ruddy appearance. The expression is very lively, the eyes snap and move quickly and are often of a brilliant darkness. The movements are quick and decided, the gestures vivacious. Belladonna is very pleasant, gay, laughing, talkative when well

and has an abundance of ideas which come and go so quickly that he cannot follow with the language, making the speech rapid and hasty. The memory is very much alive. The sensitivity is very great, he is very temperamental and loses easily his control. As a personality in the state of health he is a typical hypo-maniac.

All this turns suddenly into the opposite or reaches an abnormal stage in disease. The face becomes very red, the eyes suffused, brilliant; even protruding, the arteries of the neck pulsate, the pupils are wide and dilate. Mirth turns into senseless fits of laughter, the fluent language into garrulity, singing into shouting the friendliness into rage and fury with attempts to bite those around, to spit at them, to tear everything to pieces.

The natural agility becomes an intense restlessness, finally a rambling delirium, with attempts to jump out of bed, to attack or to escape. The great mental alertness is changed into an incoherent delirium, in illusions of a mirthful, later of a furious nature. A state of joyous intoxication with laughing, dancing and jumping around is followed by frightful hallucinations of dogs and other animals, monsters, ghosts, and all other kinds of delusions with endeavour to hide. There is a state of great anxiety, anguish, constant restlessness often with fear of dying. The pleasant mood turns into terrible fury with attempts to attack, bite and strike those around. This whole turmoil may change into a depressive state with aversion to talk, incapacity for all work, loss of memory, a silent ill humour, increasing mental weakness, final complete idiocy. The hyper-acuteness of all senses, corresponding to the stage of excitement turns into deafness and amaurosis, the hyper-motility after having reached a condition of general epileptiform convulsions into paralysis and loss of speech. Finally there is a comatose condition with very red face, dilated pupils, subsultus of the muscles and stertorous respiration. A sudden collapse may close the scene.

THE KEYNOTE OF THE REMEDY

The keynote of the remedy is arterial hyperemia with participation of the brain and nervous system, already clearly indicated by the picture of poisoning, which shows a particular determination of the arterial blood stream towards the head. The subsequent objective symptoms are heat, redness, swelling, and the corresponding subjective symptoms burning, throbbing and distention. The subsequent nervous symptoms are hyperacuteness of all senses, crampy pains and convulsions, followed by the opposite stage of unconsciousness and paralysis.

MODALITIES

The logical modalities are therefore: aggravation from lying down, bending, heat of sun, as all this increases the hyperemia, and aggravation from the least jar, touch, draught of cold air, wind, looking at shiny objects, strong odours, noise, motion, lying on the affected side, due to the hyper-

acuteness of the senses. Amelioration from rest, standing or sitting erect, often from bending backwards. Better in a warm room, Headaches better from pressure and wrapping up. Time aggravation: 3 p.m. and evening; periodically, suddenly.

ETIOLOGY

Taking cold, particularly at the neck, draught of air, suppressed perspiration, fright and anger, which all produce sudden circulatory and nervous disturbances, similar to those produced by Belladonna.

ORGAN AND SYSTEM RELATIONSHIP

The symptoms of Belladonna are produced predominantly by affection of the central and peripheral nervous system and the arterial circulation.

PATHOLOGICAL RELATIONSHIP

The symptoms picture the pathological condition of acute localized inflammation and acute remittent fever with predominant participation of the nervous system.

Through all the symptoms goes the 'maniac reaction' with violence, suddenness, and changeableness, which gives the drug its singular characteristic.

PHYSIOLOGICAL AND PHYSIO-PATHOLOGICAL ACTION

The pharmacological analysis of Belladonna respectively its chief alkaloid atropine shows the same erratic character as the proving picture. There is a continuous alternation of stimulation and inhibition or paralysis, and of actions soon followed by reverse actions which impress upon our mind again the picture of the unstable, unpredictable Belladonna type. The reversion of the effect of small and large doses is especially well demonstrable in Belladonna. The pulse is alternating in frequency, showing first a slowing up due to the stimulation of the vagus center and direct effect upon the heart muscle, and a following increase of its rate, owing to a peripheral paralysis of the vagus. The tonus of the heart muscle is stimulated by small and diminished by large doses. Small atropine doses increase peristalsis of the intestines by stimulation of the Auerbach plexus, large doses have a relaxing effect through paralysis of the *vagus* and the *smooth muscles of the intestines*. Therefore, Belladonna is used in atonic as well as in spastic constipation. The central nervous system shows the signs of stimulation and subsequent depression in the mental as well as in the sensoric and motoric spheres, according to the doses or the length of time of its administration. *Blood vessels show a sequence of arterial dilation, contraction and finally dilatation by paralysis*. Dilutions of 1:10,000 produce salivation, large doses extreme dryness because of paralysis of the salivary glands which may be followed in chronic poisoning by an abundant secretion, probably

due to an effect upon the salivary center. Secretion of the stomach is primarily increased, later on diminished. Perspiration is increased by small and inhibited by large doses as demonstrated by the provings of Sehroff. In the pharmacological experiment only the second phase, the paralysis of the respiratory glands became evident. The peripheral sensory nerves become first excited by local application of Belladonna, similar as in Aconite, later on paralyzed. Everywhere we notice alternating reactions, which express also pharmacologically the typical character of the drug.

The field of activity of Belladonna and of its alkaloids is the para-sympathetic whose myo-neural junctions are paralyzed by sufficiently large doses. The result is mydriasis, quickening of the heart rate, relaxation and paralysis of the sphincters and the smooth muscles of the respiratory, intestinal and urino-genital tract, and paralysis of the secretory functions of all glands. At the same time there is a stimulation of the cortical motor center and the respiratory and vasomotor centers followed later on also by paralysis. Generally speaking, whether stimulation or inhibition occurs depends largely on the doses and the condition of the organs.

The acute poisoning produces instant vomiting, the skin becomes flushed by vaso-dilation, showing an intense scarlet colour over the entire body, sometimes with a white area around the mouth. The tonsils and the pharynx become dark red, inflamed, the tongue shiny red, with elevated papillae on its anterior part. This whole picture resembles so much scarlatina that it was often mistaken for it and the more so as the intense hyperemia of the skin leads sometimes to desquamation. The temperature may be elevated, possibly by suppression of the perspiration or by an instability of the temperature centers. In some cases a rise of temperature up to 105° and even 109° were observed. A delirious state develops due to rising temperature and a direct stimulatory effect on the brain.

The great active hyperemia of the skin makes itself felt to the examining hand as an almost burning sensation. The primary stimulation of the sudorific glands produces intense hot sweat, drying up quickly in the following stage of paralysis of the glands.

The inflammation of the skin may also be of a more local nature resembling erysipelas with the accompanying general symptoms as produced by Belladonna. Also every other inflammation of the skin, such as local erythemas, boils, and subcutaneous infections such as felons, with the peculiar throbbing sensation and bright red colour of the skin, characteristic for the initial stage of inflammation and due to the active inflammatory vaso-dilation are produced by Belladonna. All these inflammations have usually a very sudden onset and rapid course from vasodilation to suppuration according to the general character of the drug.

During the more functional stage of this hyperemia there is a particular vaso-dilation of the arterial system above the heart, producing a sudden flushing of the face with throbbing arteries and subsequent outbreak of per-

spiration as it is found in the circulatory disturbances of the menopause. The particular arterial hyperemia of the head and brain produces a hammering throbbing headache, with the sensation of distention, sometimes half-sided as in migraine. It may be also accompanied by paleness of the face due to a vaso-constriction. The same picture of sudden circulatory disturbance of the arterial system, palpitations, increased heart rate due to vago-paralysis, maniac-hyperactivity of the mind, general irritability, together with the brilliancy of the eyes, reminds of Grave's disease in its most severe stage of acute toxemia, and this is emphasized by an effect atropine has upon the colloid secretion of the thyroid gland.

The paralysis of the secretory glands is particularly noticeable on the mucous membranes which become exceedingly dry, a dryness which makes itself felt especially in the throat. This dryness together with a local inflammation and pharyngeal spasms, a sensation of constriction due to the vagus irritation produces a picture of a typical kind of tonsillitis. The hypersensitiveness of the sense of hearing together with a local inflammation of the middle ear with the intense throbbing and boring pains as produced by Belladonna, marks a characteristic form of acute otitis. The dryness of the mucous membranes may produce hoarseness and a tickling cough, aggravated by a lying position which increases the local hyperemia. If the cough assumes a spasmodic character with sighing inspiration, it resembles whooping cough. The extension of the spasm over the smooth muscles of the bronchial tube reproduces an attack of bronchial asthma. The inflammatory action of Belladonna on the lungs brings about local congestion and bloody expectoration as in the early stage of pneumonia; there is a characteristic hypersensitivity of the affected side and therefore aggravation from lying on this side.

The influence of Belladonna on the smooth muscles of the bronchial tube and the whole intestinal tract demonstrated in the provings by spasms and crampy pains as primary action, makes its effect in all spasmodic conditions of these organs explainable. The pharmacological experiment shows only the secondary action of paralysis.

Therefore we find in Belladonna a sensation of constriction in the throat in connection with local inflammation as in tonsillitis. The dryness of the fauces adds to the difficulties of swallowing, leading to pharyngeal spasms. There is distinct nausea accompanying many complaints, and vomiting after eating or drinking. The paralysis of all secretory glands involves also the stomach producing a picture similar to primary achlorhydria. The paralysis is preceded by stimulation with a burning sensation as in hyperacidity; cramplike pains, sometimes ameliorated by bending backwards, complete the picture of gastritis. Stabbing and crampy pains may occur everywhere in the abdomen, characteristically aggravated by slightest touch and even jar due to the general hypersensitiveness of the nerves. The particular relationship of Belladonna to the lymphatic tissues brings about symptoms similar to acute appendicitis. There may be spastic constipation with in-

effectual urge as well as diarrhoea with bloody evacuation as in acute enteritis. The extreme hypersensitiveness together with the inflammatory symptoms points to beginning peritonitis. Intense spasm in the right hypochondriac region extending into the right back and shoulder, due to spasms of the gall bladder and the choledochus are indicative for gall stone colic. Similar spasms may occur in the ureter as in renal colic. Everywhere the suddenness, violence, changeableness of the pains and the extreme hypersensitiveness to touch and jar give the different clinical syndromes their characteristic physiognomy. There are spasms of the uterine muscles as in dysmenorrhoea and in difficult labour. The arterial hyperemia due to active vaso-dilation disposes to bright red haemorrhages from the uterus. The congestion produces a feeling of a sensation of bearing down, which is ameliorated by standing. The menstrual flow has very often a very strong and bad odour; threatening abortion, inflammation of the uterus and the parametrium have their similarity in the Belladonna symptoms of the genital tract. Tenesmus as well as paralysis of the bladder and symptoms of cystitis conform to the Belladonna picture.

Swelling and inflammation of lymph glands under the influence of Belladonna shows the relationship of the drug to the lymphatic type of Calcaria carbonica.

Joints and muscles are affected in the same way by hyperemia, redness and swelling with great hypersensitivity to draught of air, presenting a picture similar to an acute rheumatic attack.

The hyper-acuteness of the senses leads to many acoustic sensations such as ringing, humming, singing which may be followed by deafness. The vision is dimmed with sparks and colours before the eyes; there is dryness of the conjunctiva, many signs of inflammation of the eye, loss of accommodation, finally amaurosis. The very intense peripheral pains occurring in the different nerves have all the general characteristics of Belladonna and produce a picture of a typical neuralgia.

The motor and mental centers of the brain are partly stimulated and partly paralyzed giving a picture very similar to that produced by alcohol intoxication and acute maniac reactions: Increased motoric activity and diminished mental functions. In the state of over-stimulation there is twitching of the muscles, leading to convulsions until a true epileptic picture appears. If the more functional vaso-dilation changes into acute inflammation, we see delirium with boring of the head into the pillow, gnashing of teeth as in acute meningitis. The stage of paralysis, which is often half-sided accompanied by the usual redness of the face, loss of speech, unconsciousness, resembles closely an apoplexia in the initial stage, also the effects of a sun-stroke. The sleep is either comatose in the paralytic state, or—in the state of irritation—interrupted by twitching of muscles, startling from sleep because of the hyper-acuteness of senses which permits sensory stimuli to enter also during sleep. Therefore a state half-way between sleep and

waking is produced which does not permit the falling asleep in spite of great sleepiness. For this reason children in this condition are very often sleeping with only half-closed eyes.

PATHOLOGICAL ANATOMY

Autopsy in cases of Belladonna poisoning shows an increased hyperemia with haemorrhages in all organs, particularly pronounced in the brain and in the meninges, haemorrhagic inflammation of the gastro-intestinal tract, haemorrhages in the lungs. The chief directions of the Belladonna effect are also clearly expressed by the post-mortem findings.

LANDMARKS FOR PRESCRIBING

Great suddenness, violence, changeableness of actions.

Sensitive to slightest jar, touch, draught of air, and every sensorial impression.

Tendency to convulsions, delirium, mania.

Burning heat and redness of the skin.

Dryness of mucous membranes.

Congestion everywhere, especially in the head and the organs above the heart.

Pains: clutching, crampy, stabbing, throbbing, causing, sometimes flushing of the face.

Sensations: of distention, as if inner organs would burst; heaviness as in bearing-down.

Aggravation by stooping, and lying down.

Time aggravation: afternoon, evening and night.

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