Impotence in the XVIII-XIX century as described by Gian Pietro Fusanacci and Tommaso Eduardo Beatty

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ABSTRACT: In 1992, the definition of erectile dysfunction (ED) replaced the old term of impotence that had been used for many centuries, in order to avoid the general confusion existing until today in this field. In the past, the origin of impotence had been attributed to different causes such as psychological diseases, or witches and demons. In 1764, Fusanacci described impotence that can occur in the male as well as in the female, as a defect in reproduction. The main causes responsible for impotence were identified as inability to achieve erection, a very fluid seminal ejaculation, a defective organ, dryness of testicles, and lack of copulative power after many sexual intercourses with healthy women. Some decades later in 1847, Beatty affirmed that one of the most remarkable changes that can be observed in the passage from childhood to maturity is the development of the sexual organs, followed by the appearance of new sensations. He distinguished impotence that occurs only in men from sterility that for him affects women, and divided the causes of impotence into 3 classes: organic, functional and moral (today defined as psychological). For Beatty, the progress of knowledge had taken away magic and soreery from the human mind and now it was widespread only among the lowest and most ignorant classes of humble people. In this way, he shows the evolution of medical science during XIX century in accepting only the rational explanation of the human diseases.

Key words: Erectile dysfunction, Impotence, Sterility, Gian Pietro Fusanacci, Tommaso Eduardo Beatty

INTRODUCTION

Many people consider impotence a disease of modern man. The word impotence is derived from the Latin word "impotencia", which literally translated means lack of power. Impotence, which is the term used in the literature for many centuries, has been replaced by "erectile dysfunction" (ED) since 1992 in order to avoid the general confusion existing until today in this field. The prevalence, incidence, as well as risk factors for ED, have been defined, and new information on the pathophysiology of erection has been acquired, particularly in the area of safe and effective medical therapies. Impotence is defined as the inability to obtain or maintain erection satisfactorily for completing intercourse in 50% or more of sexual attempts. Several events must occur before erection develops. There must be a direct genital stimulation leading to reflexogenic erection or supraspinal psychogenic impulses, a relaxation of the corporal smooth muscles of the penis, a 5-to 10-fold increase in penile arterial flow and an occlusion of venous outflow from the penis. These processes are controlled and coordinated by complex neurohormonal mechanisms that involve both the sympathetic and the parasympathetic nervous systems, the pituitary-gonadal axis, arterial vasodilators such as prostaglandins, nitric oxide, or others. Thus impotence can result from abnormalities in the neuro-hormonal control system, dysfunction of the corporal smooth muscles or in their response to relaxing stimuli, and/or from derangements in the arterial supply or the venous drainage of the penis. Pathogenic mechanisms include psychological causes (anxiety, stress, depression), organic causes (malnutrition, neuropathy, vascular disease), and/or both. In the past, the origin of impotence had been attributed to different causes such as psychological dis...
Witches were considered responsible for impotence by the Middle Ages and for many years thereafter. In particular, Hippias, the Archbishop of Rheims, was the first to make the connection between witchcraft and impotence (2). From the XIII to the end of the XVII century, impotence was the only grounds for divorce especially among the upper classes. Canon law required men to have intercourse in front of expert witnesses or to ejaculate in public, whereas women were checked for an intact hymen (3). In Italy, Francesco Parona performed in 1873 one of the first surgical treatments for impotence after he noted gross varicosities of the dorsal penile vein in a 30-year old impotent man. He used hypertonic saline for sclerosing the vein, and the patient reported successful intercourse 5 days after treatment (4). By the XVIII and XIX century two books discussing the causes and treatment of impotence were published.

In 1764, Gian Pietro Fusanacci from Venice, published a Compendium on Health called "Dizionario Compendioso di Sanità", that he translated from a French publication, annotated by his personal comments and criticisms (5). One of the chapters of the book was dedicated to impotence in men and women.

In the first part of the chapter, he gives a definition of impotence: Impotence occurs in the male as well as in the female, it is a defect in reproducing the human species. Impotence depends on inability to complete erection, a very fluid
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semenal ejaculation, a defective organ, dryness of testicles, and finally lack of copulative power after many sexual intercourses with healthy women. The main factors inducing impotence were considered: 1) An abnormal state of the fibers 2) A defect in the solid or liquid substances 3) A bad structure (tumor, inflammation, abscess, ulcer, for...
Impotence can occur both in the male and female; nevertheless it can be generally observed in the male, since in the female due to her nature and organ conformation, physical impediments to coitus occur more rarely and she can generally have sexual intercourse at least passively. Sterility on the contrary affects women, because since the male is able to complete the coitus including ejaculation, his virility cannot be questioned.

Impotence or lack of copulative power and sterility, or inability to produce offspring without lack of copulative power, are worth examining, first and all, as physiological problems, by observing all temporary and permanent causes resulting in such disorders; secondly as a medico-legal problem causing impediments to marriage or providing evidence in defense of imputed rape or afflication.

The author classifies impotence according to its leading causes. The classification reported is very modern; the difference consists only in his use of moral causes, today defined as psychological causes.

The causes of impotence can be divided into 3 classes 1) Organic, 2) Functional, 3) Moral 1) Organic impotence may be due to different factors: a) Lack of some reproductive organs: Lack of penis, either natural or accidental, is a cause of total impotence. A congenital lack of this organ is very rare but it has been observed. The accidental lack of penis is more common. It can depend either on amputation or loss due to disease. Beatty reports the opinion of Foderè concerning the retention of the testes in the abdomen as a reason of increase and vigor in the copulative power. Foderè affirmed: "since such organs seem to derive benefit from the hot soaking in which they are, they have more aptitude for secretion than when they came out of their original place."

The writer underlines Hunter's view and shows his modern concept on the retention of testes. Indeed he reports that his opinion contrasts with Hunter's view, as he regards the delay in testicular descent as a consequence of their defective development. However, this anomaly is never so serious as to make the organ useless, and, therefore, when other signs of virility are visible, we cannot regard the lack of testes as evidence of total impotence.

Monorchid subjects, or individuals having just one testis in the scrotum, do not lack in copulative power. In the past, people had different opinions. In 1665 the Parliament in Paris had stated that such an anomaly could make marriage invalid.
b) Bad conformation of such organs; The smallness of the genital organs, when the subject is vigorous, cannot induce impotence since genital organs can have a great development after puberty. The excessive size and, above all, the excessive length, can be regarded as a cause of impotence due to the contusion and laceration produced in the woman's body during copulation. Such cases are, however, uncommon. Zacchia reported the case of a woman who, due to such a reason, underwent temporary lossof consciousness during copulation. Urethral orifices sometimes irregular and that results in a bad conformation known as epispadias; but it can, even, be found on the underside of the penis, such anomaly being known as hypospadias. The bad location of the urethral orifice is not always a cause of impotence, unless the cleitus on a side that is not able to enter the vagina. But even in this last case impregnation could be produced by artificial means. Spallanzani’s experiments that tried to impregnate animals by injecting the semen into their uterus, made Hunter choose the same procedure with a man who asked his advice for a problem. Bad conformation of the urethra. The orifices were on the perineum and the semen went out through it during the coitus.

Hunter advised him to put that fluid into a syringe and then inject it immediately into the vagina. The experiment was successful, impregnation occurred and the woman had a child after nine months of gestation.

The above-mentioned suggestion paved the way to the modern concept of artificial fertilization, not only in animals but also in humans.
c) Disease of some of the reproductive organs resulting in impotence: include excesserand lack of muscular nerves.
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...energy resulting in priapism or paralysia. Priapism produces temporary impotence because the erection is sustained as to close the urethra thus preventing the semen penetration. The lack of energy or paralysis in the vessels, nerves and muscles of the genital organs sometimes prevents the efflux of blood into the cavernous bodies in a sufficient way as to induce erection thus producing a state of atony close to paralysis and known as Dr. Cullen's paralytic anaphrodisia. This is an uncommon disease.

Dr. Cullen's paralytic anaphrodisia includes vascular, nervous and muscular factors, the main three modern causes involved in the pathogenetic mechanism of erectile dysfunction. Local disorders can be followed by testicular atrophy; it is well known that a state of total inaction that can be observed in all those people who have been leading a monastic life is often followed by impotence. A type of idiopathic atrophy of testes, which affected many French soldiers while coming back from the Egypt, has been described by Larrey. In those cases the organs became flabby to the touch and decreased gradually with no pain. Foderé says he had been observing some young deserters, forced to work in the Arles Canal, whose testes had gradually disappeared as if they had never existed. Obesity must be regarded as a disease when it is extreme; Martino, King of Aragon gave a remarkable example of such a disease. Historians report he was such a stout man that neither mechanical supports nor medical treatment could help him during sexual act. 2) Some functional causes are also reported: a) Apathetic behavior: Some cases have been observed in which although the genital organs are healthy, impotence can occur due to inability to produce erection. This can depend on either a problem of congenital frigidity or on what is commonly known as apathetic behavior. The children of sickly elderly or of very young parents, or people exhausted by a dissolute life may have impotence problems. Impotence due to such factors cannot be treated. b) Weakness of reproductive organs: The weakness of reproductive organs due to immature coitus, too many sexual intercourses or masturbation is a more common cause of impotence. In people having reproductive organs weakened by such factors, erection doesn’t occur, although their mind is highly excited by lustful thoughts. Other causes of general weakness as lack of nourishment, bad quality food and unhealthy diet have been said to be able to induce impotence. Any way, before such factors produce the above-mentioned results, they must be taken to extremes, because in this town (Dublin) where poverty, misery and hunger are so widespread and have no equals all over the globe, generation increases very fast, and the author of this article, due to his relations with the foundling hospital in Coombe, had the chance to see a lot of children coming into the world, whose parents had been fed for many years on healthy food.

The present opinion, on the influence exerted by nutrition on impotence, is clearly expressed and it is important to underline that it may depend on the degree of malnutrition. c) Habitual abuse of some substances: A habitual abuse of spirits and frequent blood, bile, saliva or faeces evacuation, by weakening the constitution may be possible causes of impotence. Included in this category are the sedative action of opium, herbal and tobacco. The sedative effect of narcotic gases on the sensory system can sometimes result in a temporary impotence. Some substances like water lily, camphor, colchicum and most diuretics have been supposed to have sedative effects on the reproductive organs, but the fact that such factors could cause impotence should be taken into little account.

The causes inducing a functional impotence previously reported express the present idea on the influence exerted by some medications or in general by life-style, even if the writer has a mental reservation. 3) There were reported also moral causes that include: a) Strong mental emotions - Belief in the power of spells The moral causes, in a healthy constitution with functional reproductive organs, may block their reproductive action, but once they disappear, the genital organs go back to their normal activity. Strong mental emotions are a burning desire, the fear of the victim’s neck with even a lock of his hair; some other absurd practices were done and as long as they went on they had the power to prevent erection just for fear not to succeed. The progress of knowledge has taken away this type of sorcery and many absurd practices were done and as long as they went on they had the power to prevent erection just for fear not to succeed. The belief in the power of spells was widespread in all countries and at all ages. We find examples in the East, in Egypt, among Greeks and Romans and even among some Fathers of the Church like St. Jerome and St. Augustine. Like other types of spells, there were some people who practiced them as a job. Nero was made impotent by a spell; in these cases sedatives were administered, some incomprehensible words were muttered, written on paper with blood and tied to the victim’s neck with even a lock of his hair; some other absurd practices were done and as long as they went on they had the power to prevent erection just for fear not to succeed. "The progress of knowledge has taken away this type of sorcery from human mind and now it is widespread among the lowest and most ignorant classes of people." This last conclusive concept shows the evolution of medical science in the XIX century in accepting only a rational explanation of the human diseases.

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