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Obstetrics & Gynaecology

ANCIENT CONCEPTS IN GYNECOLOGY : A HISTORICAL REVIEW

KEY WORDS:

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INTRODUCTION

The ancient Greeks, Romans and even medieval Europeans considered female illnesses to be caused by pent up menstrual blood. Hence, young virgins were encouraged to indulge in sexual activity to avoid the so called 'green sickness'. (1)

In 610 A.D., Ch'ao Yuan Fang compiled a book on etiology and symptoms of gynecological disorders. Later Sun Sui Miao wrote a book title "A thousand golden remedies" with special emphasis on gynecology. (2)

Before the 14th century, physicians prescribed poultices on the lower belly and ritual baths to cure menstrual disturbances instead of surgery, as the latter was associated with a very high mortality.

Hippocrates (460-370 B.C.) expounded his theory of the "wandering womb." i.e. many disorders in women were considered to arise from the reproductive system. The womb was considered free to move freely around the body like a tortoise, newt or crocodile and turn erratic when deprived of male semen. Even in the 2nd century A.D., the celebrated Greek physician Aretaeus of Cappadocia considered the womb "an animal within an animal," an organ that "moved of itself hither and thither in the flanks" and collided with the liver or spleen, causing various maladies. An upward shift was stated to cause sluggishness, lack of strength, vertigo and pain in the temples. Descent would cause choking, loss of speech and sensibility, and even sudden death. The womb was considered to be affected by odors, drawn by fragrant smells and repulsed by fetid smells. This concept was applied to cure a wandering womb, by luring it back to its normal position with pleasant scents applied to the vagina, or descend into the pelvis by having the afflicted inhale obnoxious aromas. The womb was held responsible for numerous non-gynecological issues. Eye problems were diagnosed as "discharge of womb in the eyes," and resolved by burning incense and fresh oil underneath the woman's introitus and making her eat donkey liver. (3)

Female Physiology

Aristotle concluded that women's physiology was fundamentally different from that of men primarily because women were physically weaker, and therefore more prone to symptoms caused in some way by weakness. He propounded the theory of humourism that both men and women had several "humours" regulating their physical health, and that women had a "cooler" humour. (4)

The Greek philosopher Aristotle (380-322 BC) viewed women as "unfinished males" and viewed menstrual blood as a lesser form of semen.

Ancient Roman physicians considered a woman's body to be like a sponge and menarche as a way to expel excess of fluid buildup in the female body. Aetius of Amida believed that amenorrhea was caused by a "hot temperament", prompting Soranus to recommend an intake of cucumbers, grapes, wine and chamomile. In ancient Rome, women with heavy menstrual bleeding would be treated by applying ligatures to the groin, thus blocking off blood flow to the uterus. Following

this, blunt corks, liquid pitch, and pessaries soaked with alum, plant sap, or the yolk of roasted eggs were inserted inside the vagina. Pliny the Elder, a Roman naturalist, wrote that menstrual fluid could wither fruit, cause insanity in dogs, dull mirrors, rust iron and bronze, kill bees, pollute purple fabrics, caused miscarriages in horses and humans, and sour crops. He also believed that sex with a menstruating woman during a solar or lunar eclipse, could be fatal. Also, the touch of a menstruating woman could treat medical conditions such as gout, fevers, erysipelas, scrofula, skin cancer, and bites from rabid dogs. It was a common belief that menstrual fluid could contaminate households.

In ancient Greece, woman's menstrual bleeding was considered a cosmic event, relating and connecting one to the moon, the lunar cycles and the tides. The terms "menstruation" and "menses" are derived from the Latin mensis (month), which in turn relates to the Greek mene (moon). (5)

In 800 A.D. Wang Tao and Tsan Yin published "Treasures in Obstetrics" in which menstrual abnormalities were attributed to wind, cold and blood exhaustion and/or overexertion.

In the 12th century women suffering from menorrhagia were advised to take the hair from an animal's head and bind it to a green sapling or tie a pouch containing a toad's ashes around the waist.

Infertility

Aristotle (384-322 B.C) formulated the earliest tests to diagnose subfertility. He advocated packing of the vagina with scented cloth and wrapping the woman in a blanket for a while to determine whether the aroma emanated from her mouth or if her tears or saliva became colored. This test determined whether or not the woman's reproductive passages were open or closed.

Infertility was considered as a divine punishment, and conception was the will of God. Hippocrates endorsed the dilatation of the uterine os using a special mix of red nitre, cumin and honey to treat subfertility. (6)

Barren women in China were given dried placenta to eat to improve fertility.

Many of the recommended remedies did not involve any medical interventions. A woman's fertility was measured by assessing the intensity of their vomiting after imbibing wine.

Contraception

In 1500 B.C., paste of acacia gum, dates, fiber, honey, and other unidentified plants were used to create a spermicide. Galen and Dioscorides recommended willow and pomegranate kernels to prevent pregnancy while Soranus recommended the application of ointments made of olive oil, honey, cedar resin, and white lead on the cervix in order to occlude the cervical os. A medical document dating back to 1500 BC in Egypt includes a list of substances used as birth control. One substance involved making a paste from acacia gum, dates, fiber, honey, and other herbs to formulate a spermicide.

All across the world, ancient civilizations used heavy metals like mercury, lead, and arsenic to prevent pregnancy. Ancient Egyptians, Assyrians, Greeks, and Chinese women would drink liquid mercury, liquid lead, or arsenic, or a combination of these, to prevent conception

In ancient Rome and Greece women consumed silphium, was a species of giant fennel to prevent pregnancy. They would also soak cotton or lint in the juice of this herb and insert it into their vaginas as a contraceptive. Silphium seeds eventually became so valuable that they were used as a form of weight-based currency, deemed even more valuable than silver. The plant eventually became extinct.

Sometimes referred to as wild carrot, Queen Anne's lace was famously described by Hippocrates more than 2,000 years ago as an oral contraceptive. Unfortunately, Queen Anne's lace chemically resembles hemlock, which is highly toxic.

Women in Greece used olive and cedar oils to decrease sperm mobility. This would give them time to rinse or douche after having sex to reduce the chance of pregnancy. Women would soak sponges or cotton in lemon juice and insert them into their vaginas. It would both act as a barrier to the cervix and as a spermicide.

Casanova, the famous Venetian ladies' man of the 18th century, would fashion a cervical cap out of half a lemon with his sex partners.

Douches were popular in ancient Rome to prevent pregnancy. Women would rinse their vaginas with all kinds of substances such as seawater, lemon juice, and vinegar. (7)

Menstrual Problems

Ancient Greeks were aware of dysmenorrhoea. Hippocrates and Aristotle advocated breathing exercise to relieve pain. Pedanius Dioscorides (AD 40-AD 90) writes that "fennel cures painful urination; expels menstrual flow; stops bowel discharge; brings out breast milk; breaks kidney and urinary stones." He also recommended baboona (chamomile) for menstrual pain. Soranus (AD 98-AD 138) the Greek gynecologist from Ephesus advised "local application of a bladder filled with hot oil and held over the aching lower abdomen. (8)

In Unani (Greco-Arabic) medicine developed in the Islamic Golden Age (from the 6th century to the 13th century) herbs such as *Apium graveolens*, *Cuminum cyminium*, *Foeniculum vulgare*, *Matricaria chamomilla* and *Nigella sativa* were prescribed for *Ushr-i-tamth* (dysmenorrhoea). These herbs had *Musakkin* (analgesic), *dafi'i-tashannuj* (antispasmodic), *mudirr-i-hayd wa mudirr-i-bawl* (emmenagogue and diuretic) properties had analgesic effects and useful for scanty periods. (9)

Ethnic medicines were commonly used for women's menstrual health in Asia, Europe, Oceania, Africa, and America were from the family Asteraceae, Lamiaceae, Apiaceae, Fabaceae. In many instances, the application or consumption of fresh parts of plants, mostly leaves, was observed because of the healers' belief regarding their higher efficiency.

In Chinese herbal medicine (CHM), Liver qi stagnation and Yin Blood deficiency were considered to be the most common root causes of pre menstrual syndrome. The main cause of dysmenorrhoea was attributed to Qi resulting in the blockage of blood flow, which led to blood stasis and formation of lumps or clots. The fundamental treatment principles involved the administration of *Chaihu* (*Bupleurum chinense*), *Xiangfu* (*Cyperus rotundus*), *Danggui* (*Angelica sinensis*), *Baishao* (*Paeonia lactiflora*) and formulations such as *Xiaoyao* and *Jiawei Xiaoyao Powder*. *Rehmannia glutinosa* and its

processed products played an important role in the treatment of irregular menstruation. (10)

In India, the leaves and roots of plants from the family Fabaceae were administered orally to treat dysmenorrhoea. (11)

In South Africa, extracts from *Commelina africana* and *Pterocarpus angolensis* (bloodwood), was used to treat dysmenorrhoea and menorrhagia. Enemas containing juice of *Euclea crispa* was an alternative.

Japanese Herbal (Kampo) Medicine was popular for menstrual disorders and menopausal symptoms. *Tokishakuyakusan* (*Dang gui shao yao san*, *Keishibukuryogan* (*Gui zhi fu ling wan*), *Kamishoyosan* (*Jia wei xiao yao san*) and *Unkeito* (*Wen jing tang*) were prescribed with extracts of *Paeonia lactiflora* being the most popular ingredient in all the four herbal formulations.

The native American Indians preferred *Artemisia dracunculus/vulgaris* (tarragon) for treating menstrual disorders.

Endometriosis

Endometriosis was referred to as the "strangulation or suffocation of the womb." Hippocrates and physicians of that period suggested that delaying motherhood could trigger disorders of the uterus, with painful menstruation and recommended that women who suffered from dysmenorrhoea marry and conceive as quickly as possible.

The types of therapeutic options available were generally ingestible concoctions, fumigants, or suppositories that contained such substances as the urine of men or bulls, tar water, chaste tree (*Vitex agnuscastus*), pomegranates, cantharides, or castor oil. The medicinal usage of cantharides (Spanish fly) was also in vogue. Known as *shiliu* in Chinese, the pomegranate has been traditionally viewed in China as a source and symbol of fertility and possessing antiproliferative and antiaromatase properties. (12) In contrast, the pine resin-derived *nostrum* known as tar water made women "barren forever" if they ingested it. Plato was of the opinion that if the womb remains barren too long after puberty, it gets "distressed and sorely disturbed, and, straying about the body and cutting off the passages of breath, it impedes respiration and brings the sufferer into the extreme anguish and provokes all manner of illness besides".

Dioscorides suggested that the brain of a hare, "being drank after three dayes after ye menstrual courses," caused infertility and stops the "flux of ye wombe and of the belly". Dioscorides' prescription for the velvet antler of a hart (male stag of the red deer species) can cure gynecologic disorders in women. The same was endorsed by ancient Chinese physicians. A medicinal herb with weak anti-oestrogenic activity was *prunella vulgaris* (*Xioakucao* in Mandarin Chinese, used in Hippocratic and traditional Chinese medicine for centuries to treat dysmenorrhoea.

Uterine Prolapse

Uterine prolapse and its potential treatment was described in the Egyptian *Kahun papyri* in 1835 BCE, where it was described, "of a woman whose posterior, belly, and branching of her thighs are painful, say thou as to it, it is the falling of the womb." Physicians of that era recommended "to correct a displaced womb" with a body massage oil of earth (petroleum), *fedder* (manure) and honey. During the time of Hippocrates (460-377 B.C.E.), the treatment for prolapse uterus was by fumigation, in which pleasant fumes would be placed at a woman's head and vile ones near her pelvic area in order to stimulate the uterus to retreat. Polybus, a pupil of Hippocrates (and his son-in-law), wrote in his text "On Diseases of Women," of the application of an astringent to the

womb followed by placement of a vinegar soaked sponge, or halved pomegranate. If these measures failed, women were subjected to succession. This involved tying a woman upside down by her feet to a fixed frame and bouncing her repeatedly until her prolapse reduced then leaving her bed bound for three days with her legs tied together. Soranus advised irrigation of the prolapsed part of the uterus with lukewarm olive oil, and tight packing of the vagina with a woolen tampon wrapped in clean linen and dipped in vinegar, acacia juice or wine. As late as 1603, Roderigo de Castro advised that the prolapsed uterus, "be attacked with a red-hot iron as if to burn, whereupon fright will force the prolapsed part to recede into the vagina". By the end of the sixteenth century, Ambroise Parre fabricated pessaries made of lint balls, brass or waxed cork, attached to a thread to facilitate their removal, and kept in place with belts. Others opted for the use of astringents such as tannin and alum; cold sitz baths, surf bathing, and sea-water douches. Postural exercises, termed Brandt's "uterine gymnastics" required anointing, massage, and manual replacement of the prolapsed parts. Leeching was also tried in an attempt to produce fibrosis of the surrounding tissues by the introduction of gonorrhoeal exudates into the vagina or the deliberate induction of pelvic peritonitis. (13)

Indian medicine advocated 30ml. Lajjalu Kashayam plant decoction (*Mimosa pudica* Linnaeus) given 3 times a day for 10 days and a thick paste of Lajjalu root was applied over the Prolapse inside the vagina and a tight diaper was put on, to retain the paste in the contact position for 2 to 3 hours for 40 days as a treatment for uterine prolapse. (14)

Urinary Incontinence

An examination of the mummy Henhenit (2050 B.C) in 1935 revealed a large vesicovaginal fistula, most likely due to a birth trauma as it was accompanied by a laceration of the perineum. Hippocrates (460-377 B.C.) wrote extensively about the diseases of the urinary tract and detailed the procedure of perineal lithotomy and management of urinary incontinence. Claudius Galen (129-201 A.D.) from Pergamon undertook physiological experiments on the lower urinary tract and postulated that micturition was initiated by contraction of the abdominal muscles and differentiated clinically between paralysis of the bladder after spinal injury and subvesical obstruction due to bladder stones. Leonardo da Vinci (1452-1519 A.D) performed several dissections on human bodies and over a period of about 25 years created a large anatomical work on the lower urinary tract. Ambroise Paré (1510-1590), the most famous surgeon of the Renaissance, also showed great interest in the urinary tract and was one of the first to resect "carinosities" of the urethra with sharp sounds. Wilhelm Fabricius Hildanus (1560-1634) provided a modified urinal for the treatment of incontinence consisting either of the bladder of a pig that was attached to the body by straps.

He also fashioned a ring shaped vaginal pessary that compressed the female urethra and controlled dribbling. Several drugs were also tried. Among them were opium (laudanum), colchicine, strychnia and atropine (belladonna). Hydrotherapy was a major aspect of mechanical therapy using cold water and aromatic baths and vaginal douches. Blistering over the sacral region was also practiced for treating urge incontinence. This was followed by bladder distension using carbonic acid gas and chloroform. (15)

Leucorrhoea

In India, the Ayurvedic school believed that leucorrhoea was caused by 'kapha' aggravating foods and vitiation of the 'rasa dhatu'. Treatment was to enhance digestive 'fire' to remove toxins and body waste by prescribing rejuvenating herbs like aloe vera, gandhak, lodhra. Ashok, udumber, arjuna and shatavari, that had a predominance of kashya rasa and kapha-shamak properties.

Ancient Unani practitioners believed that excessive residue (kesrate fozool) and weakness of digestion (Za'afe hazm) were the main causes of leucorrhoea, for which herbal therapy prescribed.

The Chinese termed leucorrhoea as Dai (discharge) xia that was restrained by a strong kidney qi, spleen T&T and Ren channels. Vaginal discharge was due to "six excesses (external evils), seven emotions; or due to drunkenness, overeating and concentrated flavors. These led to debility of the spleen and stomach with yang qi sinking downward, causing phlegm to pour downwards. Vaginal discharges were distinguished by five colors: white (Lung disharmony), yellow (spleen disharmony), red (Heart disharmony), green (liver disharmony) and black (kidney disharmony). The main treatment strategy was to invigorate the spleen, stomach and ascending yang qi. **The herb Bai Zhu and Chai Hu** supplemented the spleen while **Cang Zhu** had a drying effect. These were combined with Bai shao to sooth the liver and resolve constraint.

External applications comprised of vaginal irrigation with decoction of stem bark of Lodhra (*Symplocos racemosa*), Vata (*Ficus bengalensis*) and pessaries made of lodhra (*Symplocos racemosa*), priyangu (*Callicarpa macrophylla*) and madhuka (*Madhuca indica*).

Vaginal steaming was also advocated. This involved sitting on special stools over a steaming pot full of warm water boiled with herbs, lavender rosemary and mugwort for 10 to 20 minutes, ensuring it was not too hot or burning, and lasting 10-20 minutes.

Acupuncture at points located at the dorsum of the proximal phalanx of the thumb, where lung and large intestine meridian are located, was also considered effective in treating the condition. (16,17)

Cancer

Growths suggestive of osteosarcoma have been seen in mummies of ancient Egypt dating 1500 B.C. Scrolls or papyrus texts describe 8 cases of tumors or ulcers of the breast that were removed by cauterization with a fire drill and with a note stating there was no treatment to cure the problem. Egyptian physician Imhotep recommended producing a localised infection to promote regression of tumours. According to the Ebers medical papyrus, this was done by placing a poultice near the tumour, followed by local incision.

The "Father of Medicine." Hippocrates used the terms carcinos and carcinoma to describe these tumors after the Greek word for a crab after he noticed that the cut surface of a solid malignant tumour, had "veins stretched on all sides as the animal the crab has its feet". Treatment was based on the humor theory of four bodily fluids (black and yellow bile, blood, and phlegm). According to the patient's humor, treatment consisted of diet, blood-letting, and/or laxatives. The Roman physician, Celsus (25 BC - 50 AD), later translated the Greek term into cancer – the Latin word for a crab or crayfish. Galen (130-200 AD), another Greek physician, used the word oncos (Greek for swelling) to describe these rapid growing tumors.

Hippocrates was the first to use the term cancer to describe the hard lesions occasionally found in women's breasts. He reasoned that the lesions were caused by problems with the woman's uterus and menstrual cycle. Claudius Galen (129-216 A.D.) considered breast cancer to be caused by an excess of black bile in the body and menstrual bleed as a purge of black bile from the body. This concept was based on his observation that breast tumours were more common in menopausal women. Unlike Hippocrates, Galen encouraged surgical removal of tumors and prescribed special diets and purgation to rid the body of excess black bile. (18)

CONCLUSION

Classical gynecology was originally studied and taught mainly by midwives in the ancient world, but eventually scholarly physicians of both sexes became involved as well. Treatments consisted of ointments made from animal, vegetables, herbs, fruit extracts or minerals. Magical remedies were also rife as magic and medicine were often intertwined. Soranus (98-138 A.D) was the leading authority on gynecology in antiquity. He recognized congenital and acquired atresia of the vagina, however, wrong assumptions and inappropriate treatment methods were used to extremes. All gynecological symptoms were attributed to displacement of the uterus. Ovarian cysts were treated by repeated tapping. The development of gynecology was retarded by the strict mores and customs of the times. Vaginal examinations were only done in emergencies under protective drapes and away from direct vision of the examiner. The vaginal speculum was regarded as an instrument of unbridled indecency.

The 1800s were a scary time for gynecology in Europe. Pelvic examinations and STDs became synonymous with punishing "women of vice". French women suspected of being prostitutes would be given gynecological examinations with speculums without their consent. Under the Contagious Diseases Act of 1860 in Britain, any woman could be examined for venereal disease on the slightest suspicion of prostitution, and if convicted, forcibly confined to hospitals or asylums.

The speciality remained under wraps until the early 19th century until James Marion Sims (1813-1883) undertook a scientific and operative approach to gynecology and earned the title of "father of modern gynecology). The discovery of general and spinal anesthesia also made gynaecological procedures and surgery humane and safe.

REFERENCES

1. King H. Green sickness: Hippocrates, Galen and the origins of the "Disease of Virgins". *Int J of Classic Trad* 1996;2(33):372-387
2. Tao L. Achievements of Chinese Medicine in the Sui and Tang Dynasties. *Chi Med J* 1953;71:301-320
3. McCulloch TAH. Theories of Hysteria. *Canadian Psychiatric Association Journal*. 1969;14(6):635-637
4. Jacques J, Allies N. The legacy of the hippocratic treatise the nature of man: the theory of the four humours." *Greek Medicine from Hippocrates to Galen: Selected Papers*, edited by Philip van der Eijk, Brill, JSTOR 2012, : 335-60.
5. Amundsen DW, Carol JD. The age of menarche in classical greece and rome." *Human Biology*, JSTOR; 41(1):125-32.
6. Trompoukis C, Kalaitzis C, Giannakopoulos S et al . Semen and the diagnosis of infertility in Aristotle. *Andrologia*. 2007;39(1):33-7
7. Gemmill CL. Silphium. *Bull. Hist Med* 1966, 40, 295-313
8. Sultana A, Lamatunoor S, Begum M, Qhuddsia QN. Management of Uterine Pain (Menstrual Pain) in Unani (Greco-Islamic) Medicine. *J Evid Based Complement Altern Med*. 2017;22(2):284-293
9. Katole UM, Ovar DD, Shinde MM, Deshmukh GS. Ayurveda view on common menstrual disorders, causes, symptoms and management. *WJPMR* 2021; 7(10):246-248
10. Riddle JM, Estes JW. Oral Contraceptives in Ancient and Medieval Times." *American Scientist*, JSTOR 1992;80(3):226-33.
11. Zhang Y, Guo X, Ma S, Ma H, Li H, Wang Y, Qin Z, Wu X, Han Y, Han Y. The Treatment with Complementary and Alternative Traditional Chinese Medicine for Menstrual Disorders with Polycystic Ovary Syndrome. *Evid Based Complement Alternat Med* 2021;2021:6678398
12. Ibrahim MAA, Sadek MT, Sharaf Eldin HEM. Role of pomegranate extract in restoring endometrial androgen receptor expression, proliferation, and pinopodes in a rat model of polycystic ovary syndrome. *Morphologie*. 2022;106(354):145-154
13. Mattimore J, Cheetam P, Katz A. The history of pelvic organ prolapse from antiquity to present day. *Urology* 2015;193(45):e590-591
14. Shivanandaiah TM, Indudhar TM. Lajjala treatment of uterine prolapse. *J Ayurveda Integr Med*. 2010;1(2):125-8
15. Schultheiss D, Höfner K, Oelke M, Grünwald V, Jonas U. Historical aspects of the treatment of urinary incontinence. *Eur Urol*. 2000;38(3):352-62
16. Dehdari S, Hajimehdipoor H. Herbal Medicines for Leucorrhoea According to Iranian Traditional Medicine. *Iran J Med Sci*. 2016;41(3 Suppl):S36
17. Zelicha K. Chinese medicine treating leucorrhoea. *Chinese medicine blog*. Advanced TCM gynecology courses
18. Di Lonardo A, Nasi S, Pulciani S. Cancer: we should not forget the past. *J Cancer*. 2015;6(1):29-39.