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## The Impediment of Impotency and The Condition of Male Impotence A Canon Medical Study

REV. PAUL V. HARRINGTON, J.C. CHARLES J. E. KICKHAM, M.D., F.A.C.S.

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#### MEDICAL CONSIDERATIONS

HAVING set forth the historical evolution and present understanding of the impediment of impotency and the condition of male impotency, it remains now to consider this canonical definition in the light of present-day medical knowledge and determine what diseases, anomalies or abnormalities would or might constitute an impotent condition. The possibilities of cure or remedy of such a condition will also be discussed in an attempt to discover which might be judged to be permanent. As mentioned previously, the antecedents of each condition can be determined by the fact of its congenital nature or by the date of the surgery or accident which accounts for it.

The etiological background of impotence may, in many instances, tax the diagnostic acumen of the most meticulous and painstaking investigator. A detailed present and past history with particular emphasis on those features, pertaining to the sex apparatus, must be elicited. An evaluation of the person's attitude towards the other sex is necessary. A careful physical examination should be carried out and an impression obtained as to the gonadal type involved. Inspection of the genital organs will reveal the existence of any anomalies or gross defects. Palpation of the scrotal contents is of importance as any abnormal findings may be of real significance. The was should be followed to the inguinal canal and the size, consistency and location of the testes should be noted. The status of the epididymis must likewise be recorded. The normalcy of the penis must be confirmed. These relatively simple procedures may provide a clue to the solution of the entire problem in an individual case.

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be present whereby the reflex act is prevented by disturbances in the higher centers, or damage to the neuromus clar mechanisms, as a result of new elesions, may be evident.

Organic factors, acquired or congenital, are commonly noted and, as previously stated, lack of continuity of the conducting channels of the seminal tract may result in an impotent condition according to the opinion of Cardinal Gasparri and his followers.

On the purely functional basis, loss of potency may be due to neurotic or psychoneurotic sources with no gross pathologic changes demonstrable in the structure of the sex apparatus and no neurogenic dysfunction or mechanical impediment to erection or ejaculation present, even though there may be minor and insignificant pathologic changes. Unconscious emotional disturbances, lack of confidence, sense of inferiority. introspection, frustration, worry, indifference and occasionally sex perversion may be encountered.

Premature ejaculation is frequently encountered when the problem of impotence is presented. In this group the reflex mechanism is abnormally rapid and penil stimulation ends in too early ejaculation and before intromission has taken place. It is noted in the hypertonic person who is tense and emotionally overactive and in the hypotonic type who is disinterested and apathetic. This may lead to actual and complete impotence. The prognosis in the hypertonic is in most instances more favorable. Premature ejaculation in the

early period of married life nay not have particular signific nce especially in the sexually ine perienced. The sex act generally attons normalcy after a ce ain amount of mutual adjustment has place. These couples should be reassured and advised by a concetent medical authority. An im: ortant aspect of premoure ejaculation is that in a definite number of cases especially in the intro pective type, its repet ion may result in lack of confidence. discouragement and frustration which may terminate in an intractable true psychic impotence, which may require intensive psychot ler-

It should be recognized that the male is born with certain inhe ent sex endowments. In the weakly endowed, the sex factor may be an inconspicuous and unobtrusive ·lement in his life and may nean little or nothing to him. He may not be aware of such deficiency until conjugal requirements nake him realize his inadequacy. This may be manifested by entire lack of libido or deficient erectile power. He may not have the sligh est desire to have marital relations and thus lacks the most basic and fundamental predisposition for the normal functioning of the sex apparatus. These men are extremely difficult to evaluate especially in excluding the psychic factor as well as in pinpointing the individual who, for strictly selfish and ulterior motives, "protests his impotence too much.'

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standing of the physiological mechanisms of erection and epicolation and the associated nearest anatomy is essential to the proper appreciation of the problem volved in male impotence.

The so-called seminal traformed by the testis, epidid vas deferens, ampulla of vas inal vesicle and ejaculatory These organs are bilateral normal individual. The prosent gland has an accessory sex role. The testis has a two-fold function. The fundamental purpose is spermatogenesis—the production of sperm which have their origin in the germinal cells of the semeniferous tubules. The second purpose is the elaboration of an androgenic hormone by the interstitial cells. The hormones exercise a controlling power over the reproductive organs and promote male growth and are required for the normal development and physiological efficiency of the sex and accessory sex apparatus. The development of the secondary male characteristics is also dependent on these hormones. Testicular inadequacy expresses itself in many ways and in varying degrees. It may be absolute as after castration, or relative as in the involution of the aged. It may be failure of androgenic function or a failure of spermatogenic function. It may be primary in the testis itself or secondary failure of the gonadotrophic activity of the anterior pituitary gland. It must be emphasized that essential to the proper function of the testicles is the integrity of the master gland, the pituitary, which is the most important and dominant member of all the glands of internal secretion. The anterior pituitary secretes the gonadotrophic hormone which stimulates the interstitial cells to the production of androgen and controls spermatogenesis and regulates endocrine efficiency.

The scrotum exercises a thermoregulatory role. It has demonstrated that sperm do not reach maturity in the higher temperatures of the inguinal canal and particularly within the abdomen.

Following the production of sperm in the testes, they and any ancillary secretions are transported along the convoluted tubules of the epididymis through the vas deferens which dilates before entering the prostate gland to form the ampulla. At the base of the prostate it is joined by the duct of the seminal vesicle to form the ejaculatory duct which traverses the prostate and empties into the urethra. Obviously, occlusion of this seminal avenue at any point will prevent the testicular secretion on the involved side from reaching the urethra in the ejaculate and, when bilateral, the entire secretion is eliminated.

The seminal vesicles have a two-fold function serving as a reservoir or storehouse for the sperm and also secreting a liquid which modifies and probably enriches its stored contents. The prostate gland's only known role is the production of a secretion which, together with the secretions of the seminal vesicles and bulbo-urethral glands, mix with the testicular component to form the ejaculate. The prostatic fluid forms the bulk of the ejaculate and dilutes the ex-

in serious hemorrhage before one resorts to curettage. Had curettage not been performed during the admission prior the present hospitalization, the pregnancy might have continued on to full term. This possibility is postulated on the fact that the patient went through an uneventful full-term pregnancy the year before in spite of her long history of chronic pelvic inflammatory disease.

There is possibly room for some debate as to whether or not extraction of the fetus was actually justified when it was unexpectedly discovered at the time of examination under anesthesia. Although one might argue that the pregnancy appeared to be doomed (there is no doubt that it was certainly prejudiced by the preceding curettage) it must be admitted that death of the fetus was by no means certain at the time and the placenta was subsequently found to have been firmly attached. In the absence of severe enough bleeding liable to be an immediate threat to the life of the mother it would have been ethically more prudent to use conservative hemostatic measures such as oxytocics and packing in this case. Then even if indirect abortion occurred it would have been a natural event

in contrast to the question ble morality of direct extraction.

#### CONCLUSION

Uterine curettage for the tatth of serious hemorrhage onthe trainment of fetal viability is the trainment of fetal viability is

at st one of these conditions is fulfilled when hemorrhage is so severe that it constitutes an in nediate and serious threat to the life of the mother. In such circ instances it is unlikely that the fusis obtaining sufficient metal slic support from the mother via the placental circulation to sustain ife. This justifies the assumption is dead or detached.

Application of this criterion resupposes that the physician resupposes that the physician resupposes the distinction between direct abortion and licit removal collaboration and licit removal

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pelled contents from the ejaculatory duct and probably separates and activates the sperm. The expulsion of this seminal fluid from the vesicles and vas along the ejaculatory duct and from the prostate depends on the constriction of their smooth muscles as a reaction to stimulation of the sympathetic hypogastric plexus.

Integrity of the parasympathetic and sympathetic pathways to the genitals and sex organs may be fundamental to the normal achievement of erection and ejaculation. Erection is primarily a parasympathetic action with a sympathetic side-effect. Ejaculation is primarily sympathetic in origin with parasympathetic assistance. The semechanisms are reflex from definite levels in the spinal cord and are supervised by control from the higher centers of the brain.

Erection results from a reflex psychic or tactile sensory phenomenon having its center in the parasympathetic fibres of the 2nd, 3rd and 4th sacral segments of the cord. The impulses are carried along the internal pudendal nerve which effect dilatation of the penile arteries and consequent engorgement of the corpora cavernosa and spongeosa. This is associated with compression of the penile dorsal veins which preclude venous return. Ejaculation is basically a complex reflex action from the upper lumbar area of the spinal cord. Three separate mechanisms are involved. Afferent impulses arise chiefly in the sense organs of the glans and are transmitted to the cord along the pudendal nerve. The summation of these stimuli

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The body of the ejaculite, whether in the absence or presence of sperm, is termed semen or seminal fluid. The quantity of fuid in each ejaculation varies among individuals and, in the same individual, at various times. The average amount is approximately 4 cc. In the normal individual, the semen is composed of secretions from the testes, probably the epididymi, the prostate gland and the bulbo-urethral glands, (Cowpers). The urethral glands of Littre serve a role of lubrication. The amount. which has its origin in the testis and epididymis, is extremely small and has been estimated to be about one-twentieth of the total ejaculation and this fraction would include the sperm. This is entirely conjectural, however. In addition to the sperm there may be a minute

quantity of carrier fluid. However, there is no confirmatory test line at the present time, chemical microscopic, which can determicroscopic, which can determine the presence of sperm cannot the presence of a testicular complete cannot be proved.

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Congenital absence of the penis has been reported and is obviously a cause of permanent impotence. Rudimentary development of the organ has been observed net infrequently in which the penis is so small that it is entirely enveloped and concealed in the redundant tissues of the scrotum, pubis and perineum, making coitus impossible. A malformation which may be amenable to surgical correction is transposition of the penis and scrotum. Thirty-three instances of reduplication of the penis have been reported and may be remedied surgically.

Urethral anomalies are a frequent cause of impotence. Stenosis of the external urethral meatus may interfere with ejaculation but this condition is readily cured by meatotomy and urethral dilatation. Hypospadius, a congenital defect, in which the canal terminates on the under-side of the penis is a common congenital anomaly. Various gradations occur from an opening on the glans just behind the normal site to one located in the perineum. The anatomical varieties are classified depending on the position of the orifice. The glans or balanitic-type in which the urethral opening is on the under surface of the glans, at the site of a rudimentary or absent frenum, rarely presents symptoms other than those due to a tight meatus pelled contents from the ejaculatory duct and probably separates and activates the sperm. The expulsion of this seminal fluid from the vesicles and vas along the ejaculatory duct and from the prostate depends on the constriction of their smooth muscles as a reaction to stimulation of the sympathetic hypogastric plexus.

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and since the trajectory of ejaculation is rarely affected, there is no question of impotency. The penile type has the lifice at any point between the glans and the penoscrotal junction and its distance from the glans will affect the factor of potency. In the peno-scrotal and perineal type, the sex act is seldom achieved because the penile deformity is so extreme due to severe chordee and the position of the urethral meatus is so situated that intro-vaginal emission becomes mechanically impossible. These conditions may be amenable to surgical correction and therefore impotency may not be permanent. A variety of technical procedures have been devised to attain the optimum anatomical and functional results. The two-stage procedure has been generally accepted: the first stage is directed towards the correction of the chordee and at a later period, varying from several months to years, a urethroplasty is performed to develop a normal functioning urethral canal. These anomalies are a significant factor in the problem of male impotence and each case must be individually evaluated in relation to its reversibility. Even if the condition cannot be remedied or cured by surgical intervention, hypospadias would not constitute an impotent condition, if vaginal penetration and semination can be achieved by substituting, during the attempted relations, a position different from that usually and normally taken.

In epispadias, the urethral opening is on the dorsum of the penis. It is not commonly observed. The glans type is of no import. The

more extreme grade is, in mos instances, associated with exstra hy of the bladder, a malforma ion manifested by absence of the anor bladder wall and the o erportion of the lower abdomwall. The posterior blacder ulature and trigone are forward through the de ect lie on the level of or slig thy above the abdominal surface In complete exstrophy, there is total epopadias, separation of the pubis. a Judimentary broad-stum jed perus as a result of the epispa lial usethra and frequently cryptoschism. Impotence is always present in the male and corrective neasures give very little hope for relief.

Congenital valves of the uretl ra, hypertrophy of the verumontar um and diverticula may at times mpede ejaculation, but if properly managed, before irreparable damage has taken place, it is not a factor in impotence.

Plastic induration of the penis (Pieroni's disease) is an acquired condition of unknown etiology in which the presenting sympton is curvature of the penis during erection. This condition may render intromission impossible and excruciatingly painful, and may cause impotence. It occurs most frequently in middle life and therefore in all probability subsequent to marriage, but is found in all ages. It may be considered irreversible in spite of various surgical and medical measures which have been advocated and employed for its relief.

Malignant disease of the penis is not infrequently observed in the

young adult and when the lesion has extended beyond the glaus, complete amputation may be required with consequent complete and permanent impotence. In the more localized process of the ease, partial removal may be ranted leaving a potentially tioning organ. In rare instance, penile amputation may be sary following severe traum-

Elephantiasis of the gentrals, due to local or systemic courses, may make coitus impossible but may frequently be relieved by adequate treatment of the primary disease. Inflammatory lesions or the late effects of trauma to the urethra and perineum may cause impotence. War injuries are particularly a problem in this regard.

Anomalies of the testes, apart from malposition, are exceedingly rare. As far as the writers are able to determine congenital absence of both testes has never been definitely demonstrated. The role of malposition in impotence is uncertain although it is a well-recognized cause of sterility. In true cryptorchism, the undescended testicle, unilateral or bilateral, lies outside the scrotum although it is in the path of normal descent. In spite of a certain amount of dogmatism in the literature, our factual knowledge of the entity is limited, as attested by the difference of opinion regarding the ultimate fate of the involved gonad, the optimum time for initiating therapy and the type of treatment to be pursued.

The human testis is normally found high on the posterior abdominal wall from which position February, 1959

it descends during fetal life into the scrotal sac where it should be found at birth. Improper descent may occur when he gonad becomes directed into some abnormal channel and may be found in the perineum or may lie in front of the external oblique fascia. True undescended testis may result from its retention at some point along the path of its normal descent and one or both testes may be retained entirely within the abdominal cavity, in the inguinal canal, or in the upper part of the scrotum. A distinction between true cryptorchism and the high riding or retracted testis should be made. In the latter, the scrotum may be collapsed on the involved side but does not have the undeveloped appearance that accompanies the true undescended testis. The examiner can push or pull the retracted testis into the scrotum, but if it has not set in the scrotal bed by puberty, it should be considered undescended.

When cryptorchism is observed beyond puberty, in the adolescent and young adult, the testis or testes are small and soft in consistency due to impaired blood supply and to the increased temperature of its resting area as compared to the scrotum, and have undergone atrophy with probably permanent absence of spermatogenic function. The testis is also exposed to trauma when in the inquinal area. The interstitial cells and their androgenic hormone elaboration may not be significantly affected but when the condition is bilateral and especially of the intra-abdominal variety, there may be loss of potency because of

diminished androgenic production. Engberg observed that men with bilateral undescended testes, treated or untreated excreted only onehalf of the normal amounts of androgen and found the urinary gonadotropins high. This can well explain the lack of libido and the impotence noted in a certain percentage of such men. It has been our personal experience that the male beyond puberty with bilateral intra-abdominal testes is in most instances impotent and exhibits systemic stigma of gonadal deficiency, although this same conclusion cannot be made of the inquinal group in spite of the associated atrophy and loss of spermatogenesis.

There is considerable difference of opinion regarding the optimum age for instituting treatment of the undescended testis, but it is generally accepted that surgery must be carried out before puberty. A cogent argument against too early surgery is that irreparable damage to the circulation and function of the delicate gonads may result. Individuals who present themselves for treatment in adolescent or adult life should be regarded as neglected cases. Gross and lewett, in reporting a series of 1222 cases, recommend that surgery be deferred, if possible, until the age of nine to eleven years except in the presence of a troublesome hernia when it may be done at any time in infancy or early childhood. It has been substantiated that the otherwise normal but undescended testis and the testis in normal position keep pace in their development from birth to the pre-pubertal years, although

some investigators limit it to ve years. It should be emphased that as the position of the imposition of the sisd testis becomes farther a ay the scrotum, the percent ge perative success likewise le-

summary, the individual in cent and adult life with introduced bilateral undescended estimates because all spermatog nic function has ceased. This is expected true of the intra-abdom hal group. Permanent impotence also be frequently encountered in such cases. A low urinary 17 k tosteriod assay and a high gona lotrophin liter associated with failure of normal sex attributes to manifest themselves are particularly poor prognostic signs.

Since the spermatogenic function of the testes concerns only he fertility or sterility of the individual, and not his potency, the total lack of sperm production vill never cause an impotent condition. However, if a condition of bilateral undescended testicles prevents ny testicular component from appearing in the ejaculate, then, under the Gasparri opinion, the person will be impotent even if he is able to experience a normal erection. and if the condition cannot effectively be treated and is to be considered permanent, any marriage, intended by the man, is to be prohibited and any union, already contracted by him, is to be declared invalid.

Further, if the case of bilateral undescended testicles has resulted in a complete loss of hormonal function or has so reduced the hormonal function to the point that the individual cannot experience or sustain a normal error and thus cannot penetrate under both the classical and ern theories, the person is considered impotent and condition is to be judged point, the impediment of important is thought to be present.

If, during a pre-marital physical examination, it is found that he individual suffers from billional undescended testicles at least of the intra-abdominal variety, and if, on questioning, the patient admits that he has never experienced an erection or at least has not experienced one for an extended period of time, and if no remedy is known for this condition, it would appear that such a person should be prevented from contracting marriage because the impotency would be thought certain and thus the excepting clauses of Canon 1068. Section 2. which refer to doubtful cases, could not be invoked.

The efficacy of synthetic androgen administration must be carefully appraised. In many instances the effects may be dramatic. As a result of scientific and clinical investigations its value is being more and more recognized. This aspect will be discussed in greater detail in relation to the castrate and hypergonad individuals. It can be stated that, in the cryptorchid with androgen deficiency, the administration of the proper hormone may result in ability to carry out the sex act in the previously impotent male. In the subject of impotence as an impediment to marriage,

however, we must again emphasize the necessity for proof of its value in the specific case involved.

In cases of bilateral orchiectomy no testicular function remains. If surgery were performed prior to marriage the person is considered to be canonically impotent under the terms of the Gasparri opinion because there can be no testicular component in the ejaculate. The spermatogenic and hormonal functions of the testes are thus eliminated. The secondary male sex characteristics will gradually disappear along with the natural libido so that the accomplishment of the sex act becomes impossible unless something is done to retain these by androgen therapy. As mentioned above, in the recently orchiectized, androgenic function may be sustained by testosterone therapy and there may be no change in the sex characteristics and urges and the individual may be capable of normal erection and ejaculation. Such a person is to be thought potent at least in the understanding of the modern opinion because he is capable of erection and insemination, even though the semen lacks any testicular com-

There are many victims of bilateral orchiectomy who do not react favorably to the testosterone program and, in the light of present knowledge, there is no adequate explanation. It has been assumed by some investigators that the reason is psychic and that the individual subconsciously refuses to accept or become reconciled to his unusual situation. It is very probable, however, that the un-

known X is generally the factor as is true in many patients' failure to respond to the rapeus in medical entities.

If testosterene properly administered and maintained without interruption over a reasonable period of time does not produce beneficial results, the individual who has undergone bilateral orchiectomy is to be considered permanently impotent under both opinions since, on the one hand, he cannot experience erection and, on the other hand, he cannot deposit a semen that has been produced in the testicle. Obviously, this presumes that the condition was antecedent.

Interpretation of the efficacy of testosterone medication is in many instances difficult. The status of the individual prior to therapy must be determined. Have the effects of orchiectomy been manifest by changes in the secondary sex physical signs? Have the normal sex concupiscences been affected? If deteriorative changes have been demonstrated prior to the institution of the hormonal replacement program and there is a return towards normalcy the prognosis is optimistic. An increase in the urinary 17 ketosteriods and a normal gonadotrophic liter is also a significant quide. Precise questioning of the involved male as to his libido and sex abilities must be carried out and the credence of the individual must be established.

If an individual has underg ne lateral orchiectomy prior to a emplated marriage and dies espond to therapy then there rtainty that he is permanenth potent under both opinicas. and le is to be forbidden to makey. H ver. if doubt exists as to where or not the testoster ne will be effective, he is to be allowed to try but the marriage could convably be declared null and voic at a later time when it is char that the hormone therapy has not been beneficial and the patient contimiles to be unable to perform he sev act.

Hypogonadism—diminished or absence of gonadal function—is an important factor in male impotes ce. It is at times mistaken for sin ple obesity, but, on the other hand, undergrowth and malnutri on have been erroneously diagnosed as hypogonadism because of associated depression of general growth. True hypogonadism is constantly related to defective ormonal mechanisms involving the pituitary, the testes, or both In their severest expression these disturbances result in eunuchoid sm with complete failure of spermatogenesis and endocrine production, while, in the less severe instances, the defects may involve only one category of testicular function.

(To be concluded next issue)

## Current Literature: Titles and Abstracts

The purpose of make available by to be of particular moral, religious, or medical literature at When abstracts aportiginal article. Particle original article desired.

sattment in The Linaux Quarterly is to sting such current articles as are thought of the Catholic physician by virtue of their phic implications. It is not limited to the eff necessity, this source is the most fruitful.

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Kiskadden, W. S.: Physicians and the world's hidden crisis, Am. J. Surg., 95: 211-215, February, 1958.

Writing principally as a demographer, the author advocates birth-control as the answer to "the world's hidden crisis." overpopulation. He concludes, "Superstition, taboos, and regious and traditional fixations are ferres too powerful to be overcome quickly. The best present hope lies in educating the middle class group. To the truth that overpopulation threatens national security and prosperity."

Moynihan, J. F. (S.J.): Catholics and neurosis, Spiritual Life, 3: 247-256. December, 1957.

Father Moynihan discusses neuroses within the frame-work of Catholicism. and states " . . . in the long run, the confronting of anxiety, which is the core of neurosis, depends on what the individual regards as of value to himself and to his existence. In other words, there is a relationship between neurosis and one's system of values, one's philosophy and theology of life. For whatever may have in the past been alleged to be the chief factor contributing to the development of neurosis, there is a growing consensus among current psychiatrists that today it is basically an anxiety over the meaning of life."

Pincus, G., Rock, J., Garcia, C.R., Rice-Wray, E., Paniagua, M., and Rodriguez, Iris: Fertility control with oral medication, Am. J. Obstet, and Gynec., 75: 1333-1346, June. 1958.

"Enovid" (norethynodrel and ethynyl estradiol 3-methyl ether) was shown to be effective oral contraceptive, pregnancy occurring in none of 265 Puerto Rican women who adhered to the prescribed regimen.

FEBRUARY, 1959

Gibbons, W. J. (S.J.): Antifertility drugs and morality, America, 98: 346-348, 14 December. 1957.

Gibbons, W. J. (S.J.) and Burch, T. K.: Physiologic control of fertility; process and morality, Am. Eccl. Rev., 138: 246-277, April, 1958.

In the above two articles the moral implications of anti-fertility drugs are fully and authoritatively discussed.

Zilboorg, G.: Psychiatry's moral sphere, America, 99: 308-309, 7 June, 1958.

In this brief but scholarly paper the author reviews the Church's attitude towards modern psychiatry, particularly as expressed in the discourses of the late Pope Pius XII.

Lifschutz, J. E.: Hysterical stigmatization, Am. J. Psychiat., 114: 527-531, December, 1957.

The writer summarizes the history of stigmatization from the time of St. Francis of Assisi to the present, including the case of Theresa Neumann, and adds an instance of non-religious stigmatization. He leans toward "the classical psychodynamic interpretation of hysterical stigmata by Fenichel and Ferenczi" in which they are viewed as hysterical "materializations."

Craig, R. D.: Sexual sterilization, Am. J. Obstet. and Gynec., 74: 328-340, August. 1957.

This article represents "a survey of the pertinent literature on sexual sterilization for the past 25 years." Emphasis is on the physical, psychiatric, and legal aspects. Ethical factors are not discussed.

Fabing, H. D.: Epilepsy and the law, Med. Clin. N. A., 361-373, March, 1958.

The writer reviews epilepsy from the