REBELLIOUS CERVICITIS FROM CYSTS HIGH IN THE CANAL*

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(From the Committee on Maternal Health)

THE commonest pelvic disorder of women calls for new study, because of its important bearing on sterility and chronic leucorrhea. Gonorrhea, the one venereal disease now labeled in its obstinate form as "incurable," finds a favorite retreat in woman as an endocervicitis. One possible explanation of resistance to cure is a form of inaccessibility, the significance of which, as far as I know, has not heretofore been fully developed. This is a seat high up in the canal of the cervix. Attention was first drawn to the spot in the days when I developed a small cutting curette (from Delatours' fistula curette with a loop smaller than Craig's) to test and break up the thickened and cystic mucous membrane in the canal. Its importance was emphasized as one began in 1907 to follow canal infections farther and farther up with the electric cautery (Fig. *33*). Even before this, high cysts were occasionally determined, in the times when one obtained good results in dysmenorrhea from regular office dilatation. In such a case, although the canal had been carefully wiped out and then iodine used, the dilator brought a gush of fluid which was thought to have been due to the bursting of a cyst or cysts well out of sight.

In a recent review of the literature showing many sections of the uterus I have noted a rather surprising frequency of cysts below, or at, or just above the internal orifice. In that much neglected art gallery called *Winckel's Pathologie der Weiblichen Sexualorgane*, at least a third of the uteri of active sex life show cysts high in the canal (Figs. *7, 8, 9, 12, 13, 14, 17*). Hart's *Atlas* exhibits an atresia evidently due to a group of cysts (*17*). The Sellheim atlases yield the same surprises (*4* and *18*), and the Anatomy of Henle pictures as *normal* a section of the uterus (*19*) which shows cysts at and above the internal orifice of the cervical canal. Indeed, cysts above this level show in at least three of the sections here presented.

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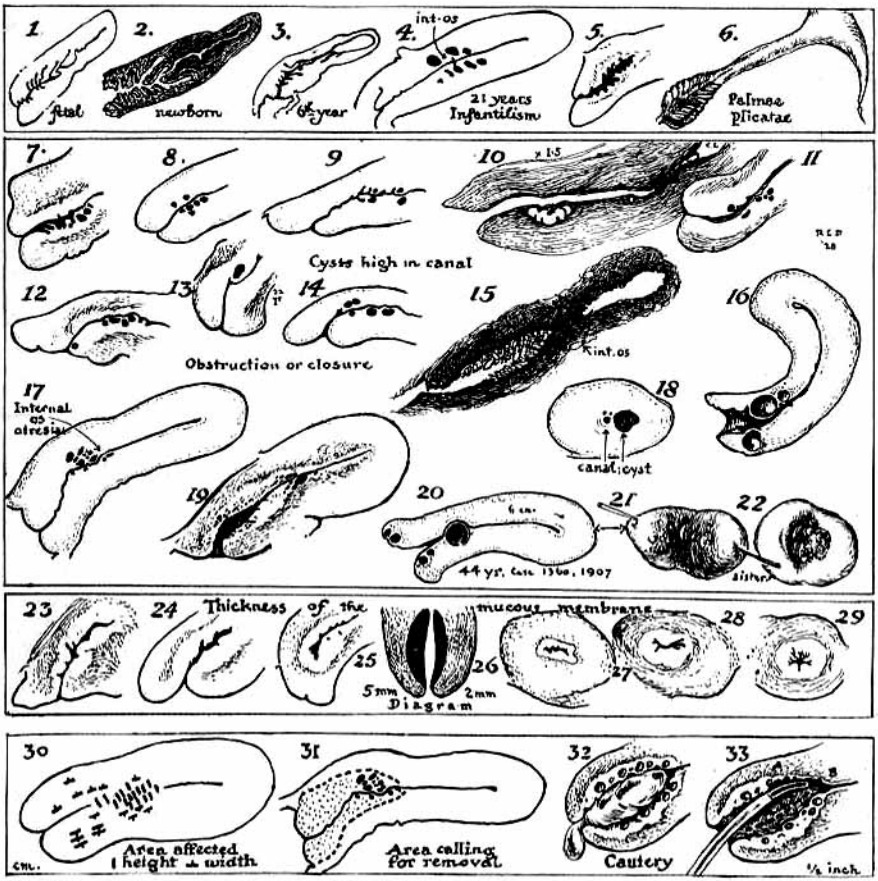

LEGENDS FOR ILLUSTRATION

Rebellious Cervicitis (*1*) At forty weeks of fetal life, the long cervix shows deep folds in mucous membrane (Winckel). (*2*) A newborn uterus shows even deeper folds (Christeller). (*3*) These crypts may remain at sixth year (Christeller). (*4*) In a nullipara of twenty-one with infantilism, this full-length uterus exhibits cysts at and above external os (Sellheim, 1). See also *19*. (*5*) Deep crypts in nullipara (Sellheim, 1903). (*6*) Symmetric palmae plicatae, cast of lining from nullipara of forty-two (Guyon). Figs. 7 to *22*, Cysts high in canal, with *none* on vaginal surface except in *12*, *20*, *21*, *22* (the only exceptions in twenty-five sections showing high cysts). Nos. *7*, *8*, *9*, *12*, *13*, *14* are from Winckel; *11* from Christeller; *18* from Sellheim. The sound could not pass in many of these cases, as in *13*, *17*, *18* and *20*; (*19*) Complete closure of internal os with cysts, in prolapse at sixty-nine, with chronic cervix catarrh (Christeller). (*15*) Senile cervicitis, rentention cysts at seventy-five (Christeller). (*16*), (*20*), (*21*), (*22*) Diagrams from living uteri show cysts larger and more tense than sections from shrunken museum specimens (Dickinson). (*17*) Atresia at internal os from cysts in multipara (Hart.) (*19*) Cysts above internal os in anatomist's picture of normal uterus (Henle). (*20*) Section view of cysts exposed by tenaculum in *21*, and in *22* similar condition in sister, both cured by cautery. Figs. *23* to *29*, Evidence bearing on thickness of lining of canal to show depth of excision or cautery-roast required (drawn from Sellheim, 1900, and Winckel). Compare with *5*, *7*, *11*, *12*, *19*. Five mm. is a frequent finding and 2 mm. next most common, *26*. (*30*) Measurements from seventeen sections, showing distance of location of cysts above internal os and breadth of area affected. (*31*) The very large bulk or cylinder of tissue which operation would have to remove if all affected area were included, using *17* as an example. The vaginal cuff of a Sturmdorf operation would have to be very large. *32* Diseased area with narrow external os, and mucous distention of canal typical of this type of cystic trouble. (*33*) Nasal cautery, after dilatation, burns two strips. From A to B the cysts have been opened and radiated heat has sterilized at least 3 mm. beyond the contacts. The dotted line shows the next strip to be cauterized.

In looking over these sections attention should be paid to the marked thickness of the mucous membrane in the upper canal. This runs from 2 to 6 mm., 5 mm. being a not infrequent figure (*26*).

A further peculiarity of the chronically inflamed lining is the surface which gives through the curette a feeling of rough, tough gristle, as if the fingernail were scraped across the back of brussels carpet or linoleum. Such a surface is shown in Figs. *5* and *7*, and is not merely due to palmae plicatae, as in *6*.

These findings have an important bearing on the choice of curative treatment or operation. If amputation or coning is in question, it is to be observed that a very thick-tipped cone would be required to eradicate the diseased areas (Fig. *31*). In some of the pictured sections such removal would involve bringing away something like a third of the bulk of the uterus, which would so maim the canal as to threaten its function and dilatability in labor.

Why not obliterate the offending cysts and infection instead of sacrificing structure? At least, if future childbearing is in question there is no excuse for such sacrifice, provided the hot platinum wire can properly open up and sterilize these areas. Such effective cautery action has been applied to a considerable number of these cases over a period of twenty years in the manner shown in Fig. 33. Beginning at the internal orifice, a gutter is burned through or nearly through the estimated thickness of the diseased lining and carried down toward the external orifice. A second groove is laid on the opposite side. If the canal is the size of the little finger, three lines are occasionally made in a first treatment, but I usually restrict myself to two because in a number of cases the extent of the radiation of the heat has reached a sufficient area. Three weeks later, in case mucopurulent secretion is still free or the sound finds rough areas in a relatively large canal, one or two lines are laid down on surfaces not previously attacked.

The most obstinate cases I have had, those requiring more than three cautery treatments, have been persistent infections of the upper part of the canal. Obviously, however, the clinical demonstration as to the level whence glairy mucus or mucopus makes its exit will only be demonstrable if one uses a tubular hysteroscope. This will be worth doing in obstinate cases, to search for cysts up the canal. An endoscope has a better field in the cervix than in the uterine cavity because there is less bleeding in this lower portion.

I am still watching for stenosis produced by the conservative, step-by-step procedure thus outlined, as part of ordinary office treatment. So far, no case needing subsequent dilatation has been detected in my series or that of Dr. Cary, even where relapse after months or years has called for repetition of cautery application.

NOTE: Since this paper was presented, A. H. Curtis has informed me verbally that he abandoned the use of radium within the cervix for the treatment of cervicitis early in 1925 or thereabouts, because of an occasional stricture and disturbance of menstruation even with small dosage. He has seen narrowing of the external os from the use of the cautery, but could not state whether this was due to the Post cautery. I ceased using the latter because the shank grows so hot as sometimes to cause a circular burn of the external os, where localized action up the canal is the only cauterization desired. Operators in San Francisco and Los Angeles have seen this burning at the os from the Post cautery, with need of dilatation later, as reported to me verbally in March, 1928. Cumberbatch, Corbus and others call for thirty to forty minute treatments once a week or oftener for weeks, which is to be contrasted with the few seconds of the cautery application. Hyams, after trying diathermy on thirty patients, reports that the sterilization action is not deep nor wide enough for effective work. The Filhos chemical cautery causes a cylindrical complete slough of the entire mucous membrane down to the musculature. Such action means closure of the canal in some instances. Therefore, if radium is found to reach too deeply and to affect the ovaries sometimes, and diathermy to act too slowly or superficially, we may again urge acquiring expertness with the simple hot wire.

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