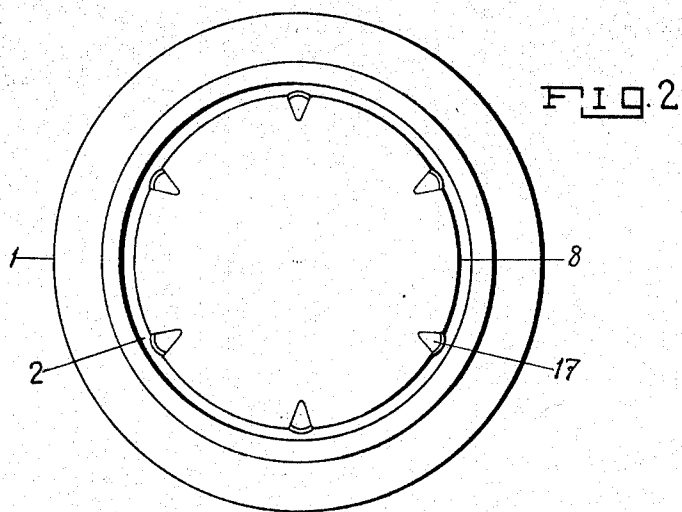
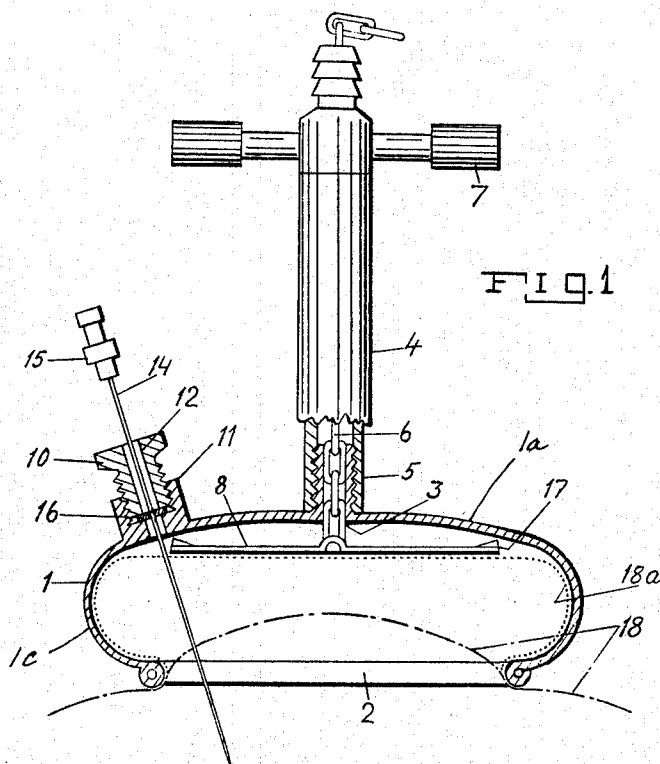


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IN CAVITIES OF THE HUMAN BODY
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REMOVAL INSTRUMENTS FOR CYSTS LOCATED IN CAVITIES OF THE HUMAN BODY

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3 Claims. (Cl. 128—303)

This invention relates to instruments for the removal of cysts within the human body. Such cysts within the stomach might grow to considerable sizes and demand a correspondingly long stomach incision in order to be removed after having been cut off at the base. Cysts also contain fluid and it is a definite medical inconvenience that this fluid runs out and mixes with the flow of blood at the removal of the cyst.

One object of the invention is to provide an instrument by means of which it will be possible to remove the cysts through an incision considerably shorter than the cross section diameter of the cyst per se.

Another object of the invention is to provide an instrument by means of which it will be possible to empty the cyst of its fluid before the cyst is cut off and thus prevent the fluid from being mixed with the blood.

With these and other objects in view, the invention is mainly directed to the concept that the instrument consists of a suction bowl adapted to be attached to the cyst by means of vacuum, with the suction bowl being provided with a displaceable needle in such a position that the point thereof can be passed through the suction aperture of the suction bowl.

Referring to the accompanying drawing, which illustrates a preferred embodiment of the invention:

FIGURE 1 is a side view of the instrument partly in cross section and partly in elevation, and

FIGURE 2 is a bottom view of the instrument shown in FIGURE 1.

The instrument includes a hollow body or suction bowl denoted generally 1 defined by a top wall 1a, a peripheral wall 1b, a comparatively large suction aperture or opening 2 opposite the top wall and a centrally located air outlet 3 for the top wall and through which air may be aspirated when the instrument is placed in position. The bowl 1 is of the type which is employed, for example, in childbirth techniques.

The air outlet 3 includes an extension of rubber and metal tubes 4, 5 adapted to be connected with a vacuum source of known type (not shown). A pull chain 6 passes through the extension, and is provided with a handle 7 for manipulating and pulling the suction bowl. Within the bowl and arranged in parallelism to the top wall 1a is a contact plate 8 which serves as a stop for portions 18, 18a of the cyst to be treated which has been sucked into the bowl, and this contact plate allows air passage to the outlet 3 either through holes or openings 17 along the perimetric edge of the plate.

In the top wall of the bowl in proximity to the centrally located outlet 3, a screw 10 is threaded into a collar 11 provided on the bowl, and a needle passage 12 is drilled axially through the screw, collar and top wall 1b. The passage 12 is inclined in such a way that a needle 14 of suitable length can, by means of its external head 15, be passed into the suction chamber so that the point may protrude through the suction aperture 2. The needle passage 12 has a larger diameter than that of the needle, thereby affording a certain tolerance of the angle of inclination for increasing the range of the needle. As the needle passage should not permit the entry of any air or, in any event, only allow a very small leakage into the suction bowl, a sealing washer 16 of soft rubber or other

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penetrable material is positioned between the base of the screw and the bottom of the collar. This sealing washer is penetrated by the needle when the needle is pushed through the needle passage 12.

It will be appreciated that the plate 8 can be moved toward and away from the suction aperture 2 and the inclination of the needle passage 12 is such that the needle 14 can reach the aperture 2 by passing between the perimetric edge of the plate 8 and the peripheral wall 1b of the bowl, as clearly disclosed in FIGURE 1.

When using the instrument on a cyst in the stomach, the suction bowl is inserted through a surgical incision in the stomach wall and attached to the cyst which is drawn into the bowl 1 by applying a vacuum from an external source to the air outlet. Due to the stiffness of the cyst wall only a small portion is drawn into the bowl as shown by the line 18. The needle is then pushed through the sealing washer 16 and the cyst punctured in different places within the reach of the needle. The purpose of the foregoing is to free the liquid inside the cyst and allow the liquid to seep into the bowl from which it is drawn by the vacuum. As the needle is quite long, it can penetrate to the inner parts of the cyst by way of the suction aperture 2. Because of the loss of liquid, the cyst will shrink to a considerably smaller size and at the same time will soften so that a greater portion of the cyst can enter the bowl. This makes it considerably easier to remove the cyst entirely through a comparably short incision in the stomach, and the liquid from the cyst can be removed without mixing with the blood from the operation. The sealing washer can, if necessary, easily be changed for each operation.

The details of this device may be subject to alterations within the framework of the basic idea of the invention.

The sealing washer of rubber or other similar material may be kept in sealing position against the needle passage by other known technical means.

I claim:

1. An instrument for use in the removal of cysts located in cavities in the human body, comprising a hollow body defined by a top wall, a peripheral wall and a suction aperture opposite the top wall adapted to be applied to a cyst, means on the top wall for connection to a source of vacuum, a contact plate within the body and having a perimetric edge located inwardly of the peripheral wall of the body, means mounting the contact plate in substantial parallelism to the top wall for movement toward and away from the suction aperture for serving as a stop for the portions of the cyst to be treated, and needle passage defining means on the top wall of the body located exteriorly of the perimetric edge of the cover plate and directed toward the suction aperture so that a needle inserted through the needle passage defining means can reach the suction aperture by passing the perimetric edge of the plate for puncturing the cyst portion within the suction aperture of the body.

2. An instrument for use in the removal of cysts located in cavities in the human body, comprising a hollow body defined by a top wall, a peripheral wall and a suction aperture opposite the top wall adapted to be applied to a cyst, means on the top wall for connection to a source of vacuum, a contact plate within the body and having a perimetric edge located inwardly of the peripheral wall of the body, means mounting the contact plate in substantial parallelism to the top wall for movement toward and away from the suction aperture for serving as a stop for the portions of the cyst to be treated, and needle passage defining means on the top wall of the body, said needle passage defining means including a collar on the top wall having an axially extending bore located exteriorly of the perimetric edge of the contact plate, a sealing washer for the bore of the collar, and a screw

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threaded into the collar for retaining the washer in position, said screw having an axially extending bore in alignment with and having the same diameter as the bore in the collar, the diameters of said bores being greater than that of a needle passed therethrough so that such needle 5
can reach the suction aperture by way of different angles of inclination with respect to the perimetric edge of the plate for puncturing the cyst portion within the suction aperture of the body.

3. The instrument as claimed in claim 2 in which said 10
collar, screw and bores in the collar and screw, respec-

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tively, are located at an angle with respect to the top wall of the body.

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