(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
12 September 2013 (12.09.2013)

WIPO | PCT

(10) International Publication Number
WO 2013/133777 A2

(51) International Patent Classification:
A61B 17/00 (2006.01)

(21) International Application Number:
PCT/TR2013/000076

(22) International Filing Date:
7 March 2013 (07.03.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2012/02652 8 March 2012 (08.03.2012) TR

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

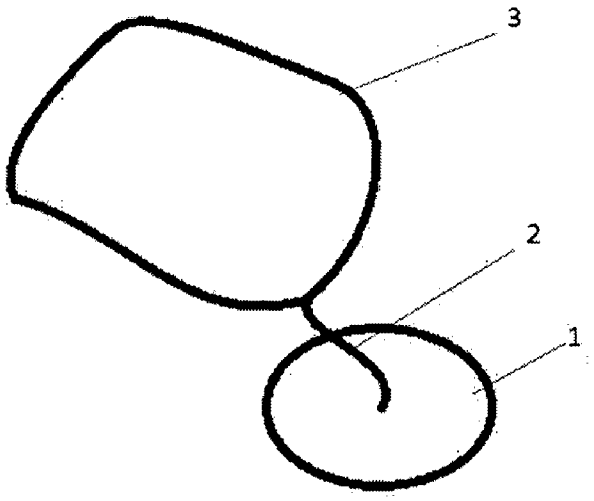
Published:

— *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*

(54) Title: SILICON FISTULA PLUG FOR INTESTINAL FISTULAS

(57) Abstract: The present invention is related to an apparatus to close and control the fistula especially in the enteroatmospheric fistulas occurred in surgical patients.

FIGURE 1



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DESCRIPTION

SILICON FISTULA PLUG FOR INTESTINAL FISTULAS

The present invention is related to an apparatus to close and control the fistula especially in the enteroatmospheric fistulas occurred in surgical patients.

In the surgical branches, fistulas developed as a result of both natural course of disease and complication, and these fistulas result in several mortalities and morbidities in the complications they cause. Fluid-electrolyte disturbances may occur in accordance with the level and mass of fistula, and skin burns may occur depending on the corrosive effect of fistula content. In addition, while peritonitis develops, because fistula content in the enteroatmospheric fistulas associated with open abdomen contaminates the intraabdominal area, the auto digestion of the structures such as intraabdominal organs, adipose tissues, connective tissues and supportive tissues may emerge, in other words they may be digested and damaged. This situation results in intractable and severe diseases.

If the fistula forms in any part at abdominal wall, fistula bag and protective creams at least prevent auto digestion. However, applying fistula bag, controlling the content and preventing auto digestion and contamination are not possible in enteroatmospheric fistulas, wherein the fistula forms intra-abdominally in association with open abdomen. Repairs by means of primary sutures to close the fistula cause more growth of the hole in the intestine instead of closing thereof. In order to close the fistula, fistula is removed by means of a critical surgical resection of fistula, end-to-end anastomosis again and ostomy. However, such kind of surgery may not be possible in complicated cases; when the patient

does not endure another surgical operation; or if severe intraabdominal adhesions and brids develop. In cases when a surgical operation is not possible in earlier stage, waiting for a length of period to save time for achieving conditions required for controlling the fistula, and surgery, is inevitable.

The object of the present invention is to save time in order to remove the fistula mass by closing the intestine from its inner surface by means of silicone plug developed, form barriers in association with the defense mechanisms of the body in the meantime, provide the peritonization of the intestines in the anterior open part of the abdomen, and to heal this peritonized area by making it smaller thanks to granulation, and to close the fistula via granulation or at least, to control the contamination by cutting the fistula flow by means of silicon plug, and to gain time which provides the opportunity to provide the conditions to apply main surgical treatment.

1. Description of the Figures

1. The view of internal fistula plug
2. The view of the bridge to which internal fistula plug is suspended, shaped in accordance with the status and anatomy of the patient.
3. The view of internal fistula plug applied to the patient and suspended to the bridge.

2. Description of the Parts

1. Silicon plug
2. Connection part
3. Suspensory band

4. Sponge part
5. Aluminum part
6. Bridge part
7. Intestine
8. Anterior abdominal wall

The silicon plug (1) according to the invention is made of silicon and it has flat and circular and flexible form. It comprises a connection part (2) that is integrated with this part, made of same material and connecting the silicon plug to the band, and a suspensory band (3) made of latex and having flexible and circular form, is provided at the other end of the connection part. Also, in order to carry the said described structure by suspending, the apparatus includes a bridge part (6), two surfaces of which are covered with thin sponge part (4), which has easily flexible thickness and softness, comprises an aluminum part (5) at the center, as a separate carrier part. The said bridge part (6) is shaped and placed in front of open anterior abdominal wall (8) of the patient and fistula orifice in the intestine is closed internally by suspending the silicon plug upwards.

The silicon plug (1) according to the invention is pushed into the intestine from the hole of the fistulous intestine (7) by being rolled thanks to the flexibility of the silicon, and after it penetrates into intestine, it expands and takes a circular shape thanks to its flexibility. Silicon intermediate connection part (2) integrated with silicon plug and flexible latex suspensory band (3) connected thereof are left outside. The said part is suspended to the part that is made of sponge and aluminum (4, 5) and implanted to the anterior abdominal wall (8) by being given a bridge form (6) via a flexible latex

suspensory band (3), and thus, it is provided that the fistula is closed internally and the flow is cut by implanting the silicon plug (1) to the intestine mucous membrane.

CLAIMS

1. Our invention is silicon fistula plug for intestinal fistulas, characterized in that it comprises a silicon plug (1) that is made of silicon, and has a flexible, flat and circular shape; a connection part (2) that is integrated with silicone plug (1) made of same material and connecting the silicon plug to the suspensory band; at the other end of the connection part, a suspensory band (3) made of latex and having flexible circular form; and a bridge part (6) which is connected to the said structures in order to carry thereof, two surfaces of which are covered with thin sponge part (4), which has an easily bendable thickness and softness, and comprises an aluminum part (5) between sponge parts (4) at the center.

2. The application method of silicon fistula plug for intestinal fistulas according to Claim 1, characterized in that;

- the silicon plug (1) according to the invention is pushed into the intestine from the hole of the fistulous intestine (7) by being rolled thanks to the flexibility of the silicon,
- and after it penetrates into intestine, it expands and takes a circular shape thanks to its flexibility,
- Silicon intermediate connection part (2) integrated with silicon plug and flexible latex suspensory band (3) connected thereof are excluded,
- the bridge part (6) made of sponge part (4) and aluminum part (5) part is suspended to the part implanted to the anterior abdominal wall (8) and thus, the silicon plug (1) is implanted internally

to intestine mucous membrane and the fistula is closed internally.

FIGURE 1

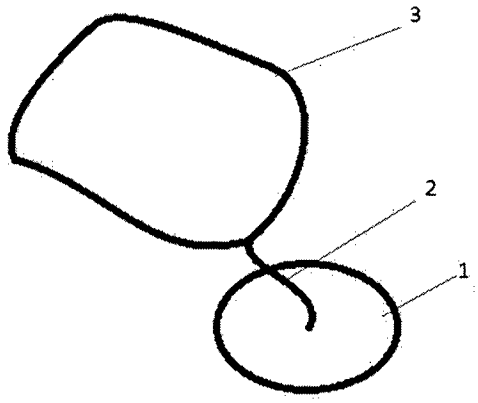

FIGURE 2

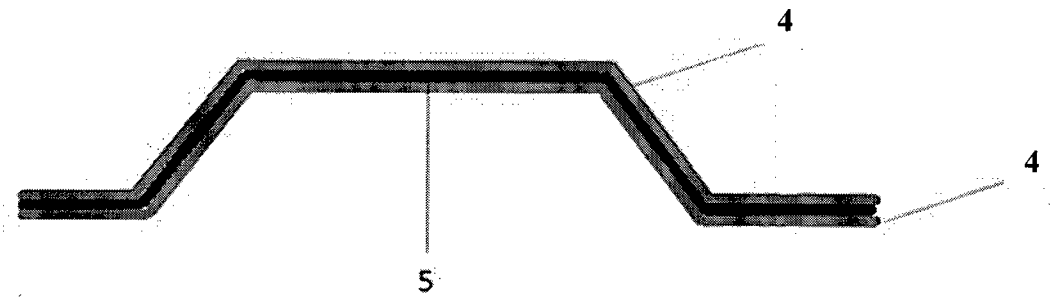

FIGURE 3