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ON UTERINE TENTS MADE FROM THE DRIED STEM OF THE LAMINARIA DIGITATA.

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It is now more than a year ago since Dr. Sloan, of Ayr, first directed the attention of the Profession to the dried stem of sea tangle as a substitute for tents in ordinary or common use. Since then, through the kindness of Dr. Sloan, I have had ample opportunities of testing the value of such tents in dilating the os and cavity of the cervix uteri as an aid to diagnosis and treatment in certain affections of that organ. My experience of these tents has been wholly limited and confined to their employment for effecting this purpose—the cases in which they were used being precisely of that class and character in which sponge tents had heretofore been employed. In each and every case where tried I have been much satisfied with the result.

The laminaria digitata (sea-girdles, tangle, sea-staff or sea-wand) is a marine plant well known to visitors to the coast; it is found in great abundance on the rocky shores of the British Islands—indeed, I may say, on almost every rock and reef throughout the world—forming, as it were, a zone or belt extending from low water mark to several feet below it. After a storm, especially towards the close of the season, the beach in the neighbourhood of such rocks is generally thickly strewn with seaweeds, of which the tangle forms a large proportion. The tangle is readily recognised by its cylindrical stem, which varies from two to six feet in length, and which, at its upper extremity, suddenly expands into a flat, ribless, roundish-oblong frond, about a

foot or more in breadth, which again is deeply cleft into a number of ribbon-like segments. At the other or lower extremity of the stem is a bunch of thick fibrous-looking, clasping rootlets, which are firmly adherent to the rocks or stones, especially in deep water. The stem near the base is of variable thickness, sometimes exceeding two inches in diameter. The stem, as already stated, is of a cylindrical form and gradually tapers upwards, assuming near the apex a somewhat flattened and compressed appearance. It is soft, firm, tenacious, and flexible, becoming hard and horny and greatly reduced in diameter when dry. It is purely cellular in its structure, being devoid of anything like a vascular system. The cells in the central portion of the stem are considerably smaller than those at the periphery. The younger specimens have a fine olive colour, which becomes darker as they get older.

The property which the tangle stem possesses of becoming greatly reduced in bulk when dried, and again expanding when exposed to moisture, is indeed remarkable. Although this remarkable property has long been known, Dr. Sloan, of Ayr, has unquestionably the credit of being the first to suggest and recommend the use of tangle as a dilating agent in Surgical practice. A portion of the dried stem will in the course of twenty-four hours or so, by the absorption of moisture, attain to its full original size, that is to say, it will expand to three or four times the diameter it presented when in the dried condition. Experience has fully proved that the secretions of the mucous membrane in and around the cervix uteri afford sufficient moisture for the proper expansion of the tent. Should, however, there be a deficiency of moisture, a small quantity of tepid water may be injected, *per vaginam*, from time to time.

As the result of several experimental trials, I find that tangle in the young and recent condition is on the whole the best for making tents. The young tangle seems to expand more readily and more largely in proportion to its size than that of older material. I believe, however, that the older tangle exerts a more powerful dilating effect, and in cases where this is reckoned advantageous it may be selected in preference. The tents must of course vary, both as regards size and length, to suit the requirements of each individual or special case. Those which I most generally employ vary from an inch and a-half to an inch and three-quarters in length, and are about the thickness of a No. 5 catheter, somewhat abruptly tapering to a point. I have

found that if the tents are of a gradually tapering form the dilatation is rather apt to be of a too conical or pyramidal character, being wider below and narrower above. Another objection to tents of this shape is the difficulty sometimes experienced of getting them to remain *in situ*. It is, I think, desirable that as little as possible of the external covering or rind of the tangle-stem be removed or interfered with, as it appears to possess greater power of imbibing or absorbing moisture than the subjacent portion. Whether this be due simply to larger cellular structure or some peculiar stomata of the outer coating of the stem I am not prepared to say. The tents should be introduced on the point of a metallic holder or director, without using the speculum. Each tent should have a piece of tape or string attached to its base, to facilitate its withdrawal. I am in the habit, before using one of these tents, of immersing it in water till it becomes fully expanded, then allowing it to dry, repeating this process several times. This I think improves its expanding properties, and, at the same time, removes the iodide of sodium or other saline ingredients with which it is impregnated. This saline matter sometimes occasions a good deal of smarting and irritation of the mucous membrane with which it is in contact. It is a good plan to dip the tent in hot water for a few seconds immediately before introducing it. I have purposely refrained from oiling the tents before using them, believing that by so doing the absorbing power may be interfered with, and the dilating property consequently diminished.

In all cases where it is considered necessary to open up and dilate the os and cavity of the cervix uteri these tangle tents, I think, will commend themselves to general adoption. In the smaller dilatations, which are the most common and most troublesome, such tents are especially valuable. Being firmer and less bulky than those made of sponge, they can be more easily introduced. Indeed, in those cases where the os and cavity of the cervix uteri is very small they can be introduced when sponge tents cannot. Cases of this kind may occasionally occur in which it may be rendered desirable to combine the use of tangle tents with those made of sponge, commencing the dilatation with the former and completing it with the latter. A graduated series of tangle tents may in some instances be required before the requisite amount of dilatation can be obtained. When dilatation to an unusually large extent is rendered necessary, a tent

of requisite size may be easily formed or built up of several pieces of tangle, retained together by elastic thread or some such contrivance.

Tangle tents possess so many advantages over those made of gentian or elm bark, that it is here quite unnecessary to specify them. Tangle tents dilate the os and cervix uteri as effectually and as readily as those made of sponge; they possess, moreover, several advantages over those made of the latter material. For example, I have found them to be much more easily introduced within the canal of the cervix uteri. Being firmer, they are not so liable to be broken and destroyed in attempts at introduction, which is often the case with sponge tents; indeed, the same tangle tent might be used over and over again without its dilating properties being in the least degree impaired. To remove any objection on the score of want of cleanliness which such a practice might occasion, the tent may be immersed for a few hours in a weak solution of permanganate of potash before being used again, when it will be found as good as ever. Then, again, tangle tents, as compared with sponge, are much more easily and readily made; this, along with the abundance of the material, leads to another important advantage, viz., greater cheapness. A tangle tent can be easily prepared by any one in the course of a few minutes. On being withdrawn, such tents are in a great measure free from that disagreeable fœtor which is so peculiar to the sponge, as the result of its partial decomposition.