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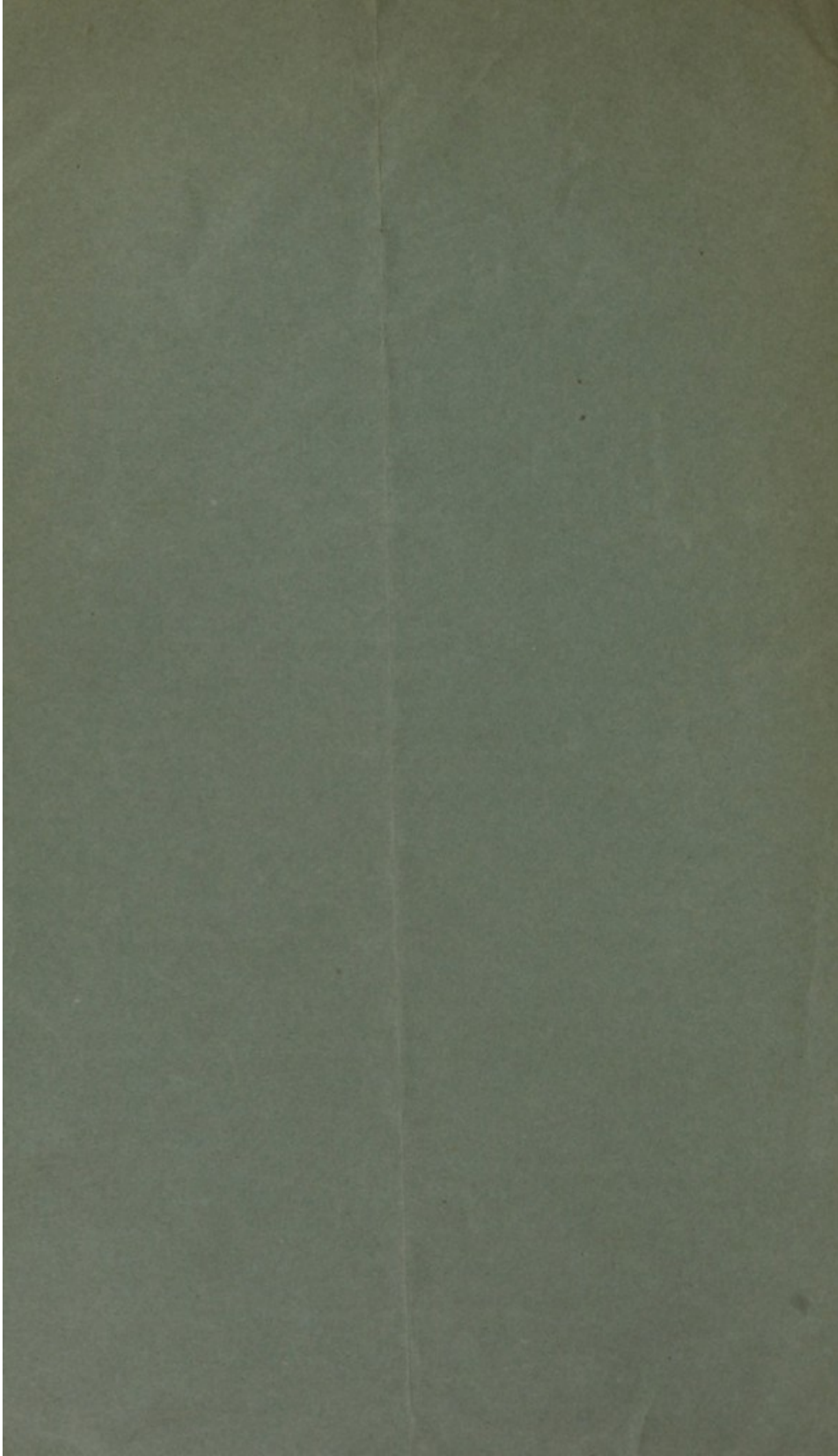


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Storer (H.R.)

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dilataction of the cervix
uteri -





ELM TENTS

FOR THE

DILATATION OF THE CERVIX UTERI.

BY HORATIO R. STORER, M. D.
ONE OF THE PHYSICIANS TO THE BOSTON LYING-IN HOSPITAL.

[From the Boston Medical and Surgical Journal of Nov. 3, 1855.]

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IN May last I proposed, in a paper read before the Medico-Chirurgical Society of Edinburgh, that, for the more satisfactory diagnosis and treatment of certain forms of uterine disease, tents of elm bark should be substituted for those hitherto in use. A brief abstract of these remarks was subsequently published in one of the London Journals;* and was thence copied shortly after into the pages of this.

Since my return, I have been frequently questioned upon the subject—to an extent that convinces me my own impressions of its interest were not too extravagant—and have been requested to repeat more fully than they have been reported, the views I expressed in Edinburgh.

They were mainly the following :—that sponge, the ordinary material for uterine tents, is open to certain objections—previously, I believe, hardly insisted upon, if pointed out; that in certain cases a substitute is desirable; and that in many cases at least, such is found in the elm bark. To this I added, and would still do so, in justice to myself, that, as in most matters of new inquiry, the agent proposed is as yet by no means all that could be desired. My suggestion was made only in the hope that it might be improved upon by others.

* Association Medical Journal, May 1855, p. 446.

Into the discussion of the general indications of uterine tents—their advantages in many cases, their necessity in some, I have no intention here to enter. I am, however, satisfied that the matter is one demanding early and thorough revision—insufficiently understood by most men abroad—hardly at all at home.

Few more important steps have been made during the present century than the proposal of sponge tents for the diagnosis of intra-uterine polypi, carcinoma of the fundus, and other abnormal states of the uterine cavity. His memoir upon them, would by itself have established Dr. Simpson's reputation—in whose hands they at once became the key to cases otherwise perfectly unintelligible.

The well-made sponge tent, under which term I do not mean to include a large proportion of those sold as such here and elsewhere, is, in the majority of cases, perfectly adapted for its immediate object. It opens up the os and cervix speedily and thoroughly, and in most instances, I do not hesitate to add, safely. There have been cases, however, and more frequent perhaps than would generally be believed—cases not on record, their true nature often not suspected—where dangerous and even fatal symptoms have supervened upon the use of sponge. Quite a number of instances where this has occurred, in the practice of different gentlemen, have now come to my knowledge—several of them I have indeed seen. Whether these could have been easily prevented, or even foreseen, I am not at all prepared to affirm—but that they may occur, I am certain.

To these results, sudden accidents or the gradual development of disease, sponge of itself, as it were, predisposes. Its chief excellences, its rapid and great expansibility, may at once become its greatest dangers. If there be present unhealed lacerations of the cervix, so common after recent delivery, and at times remaining, I have no doubt, long ununited—if that organ or the tissues surrounding it, be the seat of disease, whether carcinoma in any stage or otherwise—fatal injury might be at once produced by the force of rapidly expanding sponge—a force whose amount would hardly be imagined. Exerting this powerful pressure in every direction, though more especially upon the sides, it of course follows up the least resistance; where the cervix has been unusually stubborn and unyielding, I have frequently known it to thrust itself completely back into the vagina; where a side, or a tissue, or a fibre, were morbidly weak and yielding, or where the slightest crevice existed, we ought not to wonder at any symptoms of peritonitis.

That the trivial ulcerations or abrasions about the os, so frequent, and which of late have been so much and often so unnecessarily treated and treated of, are likely to predispose to any such trouble, might or might not be alleged with truth; but as yet I have no sufficient evidence that they do so. With regard, however, to that excessive rigidity of the os which is sometimes noticed, independent, apparently, of marked disease, or even of simple hypertrophy of the cervix, I am inclined to hold more decided opinion. In such cases the laceration might easily take place.

So far the liability to sudden injury and its consequences—immediate or distant. In addition to these various instances, I think I have observed others where the symptoms, different in their nature, must have been owing to a different cause. More particularly would I instance attacks of pelvic cellulitis, that most frequent, and yet often most misunderstood and unrecognized disease. Such attacks might of course be more or less severe, as the case might be—going on or not to suppuration and perhaps consequent fistulæ.

In several cases of those I have seen, the disease seemed directly dependent upon irritation produced by the forcible expansion of the sponge against unyielding tissue, as in the rigid os to which I have alluded, yet where laceration was escaped, either by the tissues yielding in time, or by their ultimately proving stronger than the sponge—though this latter occurrence seems comparatively rare, a succession of sponges being generally applied, often through many hours.

In such cases, where the irritative and inflammatory action are produced by the mere application of undue force—perhaps extended also over too long a time, for much depends upon this—there is considerable resemblance to what obtains in many cases of rapid abortion or of lingering labor—dissimilar as they all at first sight may seem.

Again, I have thought I might trace one more element in the production of pelvic abscess by sponge; a very different one from that just instanced, and yet, like that, easily comparable to both the other morbid states alluded to. I refer to the rapid decomposition of sponge when subjected to the various secretions, healthy or unhealthy, of the vagina and uterus. Under such circumstances, many other substances rapidly become, so far as odor is concerned, perfectly unsupportable, but sponge excels them all in this respect; unless I except some forms of prepared caoutchouc.

Where such extensive chemical change is established, such a

noisome stench exhaled, it is not difficult to believe that a tendency to suppurative action, whether of local and neighboring deposit or of more general extent, might easily be induced ; especially if there were otherwise any predisposition, from irritative habit, actual local disease or aught else.

To the fact that such unfortunate occurrences as those above described might, upon a little consideration, be *a priori* even more frequently expected, may perhaps be traced some of the disinclination apparently existing in this country to the use of sponge, or any other form of expansible uterine tent—existing, indeed, in some quarters where it would hardly have been expected. Often, again, I have no doubt, this is owing to lack of skill in their application, though such can readily be acquired by a little practice ; or else to utter ignorance that tents have ever been proposed—for with all their dangers, and all the objections that I can urge against them, I do not hesitate to repeat that sponge tents are often indispensable. There are certain gentlemen, however, whose repudiation of them seems to me quite unaccountable. Of such, and I am bound in fairness to mention them, I have seen but one—and to him, as in the foremost rank of surgeons in this city, alike regarding age, position, and the respect of all, and as the possessor of a most enviable European reputation in one branch of obstetric surgery, neither of the motives I have alleged can for a moment apply. This gentleman, in conversation not long since, informed me of his utter disbelief in the advantages of any form of uterine tent. I can only think that he is mistaken. Perhaps like another gentleman, of whom and whose reputation we are all justly proud, and who for many years is said to have doubted the existence at any time, or under any circumstances, of a distinctly marked hymen, although he has now, I believe, changed his mind on this subject, my friend has probably been singularly unfortunate in the cases that have come under his notice.

Persuaded, as I have said, that accidents might easily occur, in ordinary hands and with ordinary care, and I have little doubt that even the best obstetricians must see, from time to time, cases that go wrong, inexplicably to their minds, I chanced to meet with an article in a back volume of the *British and Foreign Medical Review*,* that at once arrested my attention. It was a brief abstract of a most curious and interesting paper by Dr. McDowall, of Vir-

* Loc. cit., July, 1838, p. 259.

ginia, under the rather quaint title of "Elm Bark Surgery," originally published in a Western Journal,* and thence copied into the Philadelphia Medical Examiner.† Dr. McDowall had supposed it possible to render the bark of our native slippery elm (*ulmus fulva*), useful in the manufacture of various surgical instruments, as bougies, catheters and the like. Upon extended trial, however, he himself found his expectations unanswered, and frankly confessed that this was the case, there being such liability that portions of the dry and brittle bark would break off in the urethra or bladder as to render its use in the crude state difficult and even dangerous.

These objections, coming from this source, were of course considered insurmountable, and for the purposes described, very justly; for I know of no way in which the bark could well be turned to the uses proposed by Dr. McDowall. The idea at once suggested itself to me, however, that it might be made useful for opening up the cervix uteri, if its excessive brittleness could but be overcome. After various trials this was found practicable, although, of course, the extent to which it can be done, depends very much on the care expended upon the process of preparation.‡ By disintegrating the fibres from each other, a mass of flexible, tough, spongy tissue is obtained, readily moulded into the desired shape; and this, formed into tents, answers to a reasonable extent all the expectations I had ever formed of them.

It is necessary that a uterine tent should be expansible—but I have endeavored to show from some of the results of the use of sponge, that, for consistency with safety, this capacity of expansion should be within due bounds.

The expansibility to a certain extent, of slippery elm, is well known. This extent is indeed inferior to that of sponge; but if the bark be of good quality, upon which much depends, it will generally be found sufficient for every practical purpose.

I have stated my conviction that the danger of sponge lies, not merely in the extent to which it will expand, but also in the celerity

* Western Journal of the Med. & Phys. Sciences, December, 1837.

† Loc. cit., I., p. 244. A couple of lines are also given in abstract of McDowall's paper in the U. S. Dispensatory, p. 727; and in Pereira, II., p. 1086.

‡ The first that were made at all to my mind, were prepared, after repeated experiments, by my friends Messrs. Duncan & Flockhart, of Edinburgh, famous for their sponge tents and for their manufacture of chloroform. At home, decidedly the best I have been able to procure, have been made for me by Messrs. Codman & Co., the well-known instrument makers of Tremont Row, in this city.

with which that force is exerted. This also exists to a less degree in the elm, a tent of which will not be found increased to its full size within three or four hours after its introduction, as is often the case with sponge; but in very many instances this rapidity is not necessary. In most cases indeed I consider it unsafe—unsafe at any rate for the os to be suddenly dilated, from a comparatively closed state to its full patency, in so short a time. The tissues are generally by no means prepared for so sudden a change; and when effected, it can hardly be compared to what takes place during the first stage of natural labor: in the case under consideration, the stimulus being entirely from below, entirely confined in its action to the cavity of the cervix and its extremities, entirely unconnected with any thing at all resembling the end of gestation—which indeed could only be imitated by the descent of so large a polypus, fibrous or otherwise, as to render the use of sponge tents wholly out of the question. In most cases requiring a tent, great haste is not necessary; in some cases it is decidedly counter-indicated; in many, other things being equal, elm bark has the advantage over sponge.

Furthermore, I need not dwell upon the fact that the elm tent, on its withdrawal from the vagina, though it may have become somewhat impregnated with a sufficiently disgusting odor during its impaction among the several secretions, will yet be found not to have itself tainted them. In this respect, also, I have noticed a marked superiority over sponge.

But to such apparently negative excellence, there seems to be added other, sufficiently positive in its character. I allude to the abundant mucilage poured forth from the cells of the elm, and which, by affording a perfect sheath to all irritated or diseased surfaces, must lessen the dangers so peculiar to sponge; while on the other hand it supplies, to a certain extent, any deficiency that may, as often, occur in the normal secretions of the parts, necessary in furtherance of the process of expansion.

I might go on to point out other, though less important advantages, but do not consider it necessary. I do not desire to claim for these tents that they should always take precedence, or should indeed become generally substituted for sponge; such claim would be unjust to both. Nor on the other hand do I expect that all who may be induced to make trial of them, will give them their unqualified approbation. Much will depend upon the manner in which they are prepared, and the quality of the material itself. In size,

shape and mode of introduction, they should closely resemble the sponge tent, with which, as I have already said, I shall take for granted that my reader is familiar. Upon these three particulars, of course, success or failure will in a great measure depend.

Some minor points with regard to them can only be satisfactorily determined by more extended experiment. For instance: though I had found in several cases a simple glazing, made by merely dipping the tent in water so as to discharge a little mucilage upon its surface, and then drying, was fully sufficient to secure proper stiffness and to prevent any injury to the patient from slightly projecting spicula, yet I had directed a few to be prepared with a more decided coating of wax, tallow and lard. Several of these, Messrs. Codman have just informed me, fell into the hands of one of our most eminent obstetricians, who has since expressed himself to them as somewhat disappointed in the extent to which the tents enlarged. Since then I have not happened to meet the gentleman, but in this case the coating was probably at least as much to blame as the tents themselves.

Not only will much be found to depend upon the character, good or bad, of the tents, but also much upon that of the cases in which they are applied. For some of these they will doubtless prove much more fitted than for others, as I am confident is the case with sponge. Into this branch of the subject I have not yet examined sufficiently thoroughly to hazard any very decided opinion, but will only say that, as was suggested to me by my good friend and late colleague, Dr. Priestley, of Edinburgh, they will undoubtedly be found of decided benefit in many cases where sponge would be hardly at all admissible. As among these, may be mentioned a large, and often most perplexing class of patients, those laboring under mechanical dysmenorrhœa.

I have already frankly confessed my belief that even if some other agent be not hereafter found more fully to satisfy the indications for which I have proposed elm bark, its mode of preparation may yet be advantageously modified. My friend, Dr. Cabot, has lately informed me that, some years since, he made trial of the old-fashioned sponge tent, previously saturated with elm mucilage, and that in two or three instances he applied it to the cervix uteri with tolerable success.

In case some other and better agent is to be found, elm may prove the stepping stone to it. In the course of my experiments in Edinburgh, various substances came under trial; but none answer-

ed my expectations so well as this. The others, some of althæa root, for instance, carefully prepared for me by Duncan & Flockhart, were too slow or insufficient in expansion, and altogether too deficient in mucilage.

7 Chester St., 29th Oct., 1855.

