National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

Assessment of technical files of two transvaginal mesh implants intended to treat pelvic organ prolapse

V&Z/GZB
A. van Leeuwenhoeklaan 9
3721 MA Bilthoven
P.O. Box 1
3720 BA Bilthoven
www.rivm.nl/en

T +31 30 274 91 11
F +31 30 274 29 71
info@rivm.nl

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By order of the Dutch Health and Youth Care Inspectorate (hereafter inspectorate), RIVM is currently assessing the technical files of mesh implants intended to treat pelvic organ prolapse (POP). There are two surgical routes to treat POP using mesh products: transvaginal and transabdominal.
The RIVM has finished the technical file assessment of two transvaginal mesh implants used to treat POP that were still on the Dutch market on November 1st 2019. RIVM identified major shortcomings in both these technical files. Therefore, RIVM decided to report the results to the inspectorate ahead of the full analysis of the technical files of all the selected products. This document provides a summary of the identified shortcomings.

The present results are part of a larger investigation, in which technical files of 9 mesh products intended to treat POP are being analyzed. An overview of these 9 products can be found in Appendix 1. Manufacturers are listed in alphabetical order in this overview. From each manufacturer, if available, 1 transabdominal and 1 transvaginal mesh implant has been included in the analysis. In addition, a partially absorbable mesh implant has been included. In 2018, all listed mesh implants were available on the Dutch market. At this moment 4 products are no longer available on the Dutch market (Appendix 1).

The results of the analysis of all technical files will be published later this year.

Technical file assessment

It is known that serious complications can occur after transvaginal mesh implantation to treat POP[1]. Therefore, the RIVM prioritized the technical file assessments of the two transvaginal mesh implants that are still being used in the Netherlands: BSC Mesh of A.M.I. and Calistar S of Promedon. §
In Table 1 the assessed file items are listed with an indication of the severity of the identified shortcomings. Manufacturers substantiate the safety and performance of products with complete and correct technical files. An identified shortcoming does not necessarily imply that something is wrong with the product. For these two products, major shortcomings were identified in the technical files and the safety and performance of the products have not been substantiated properly. An important issue for both products is that the clinical evaluation has been performed based on clinical data from other products, without adequate substantiation of equivalence.

§ In November 2019, the notified body suspended the CE-certificate of BSC Mesh A.M.I.

Table 1: Overview of the assessment of the technical documentation of two transvaginal mesh implants intended to treat POP.

File item	**Shortcomings BSC Mesh, A.M.I. GmbH**	**Shortcomings Calistar S, Promedon**
Device description	None	None
Instructions for use	Short	Short
Risk analysis	**Major**	**Major**
Chemical composition	**Major**	**Major**
Biocompatibility	**Major**	**Major**
Clinical evaluation	**Major**	**Major**
Summary and analysis of post-market surveillance (PMS) data	Not assessed, the manufacturer did not provide the requested documents despite repeated requests from the inspectorate	**Major**
Clinical evaluation dated in 2019§	**Major**	**Major**

Technical files dated on or before December 2018 were analyzed in this assessment. § In addition, the most recent clinical evaluation was assessed by RIVM.

Background information on technical file assessment

Manufacturers are obliged to compile technical documentation in order to show conformity with the regulatory requirements[2]. Complete and correct files are essential to substantiate the safety and performance of the product. Notified bodies assess the conformity and issue a CE-certificate to manufacturers to provide market authorization for the European market. The inspectorate maintains supervision on manufacturers located in the Netherlands that have a medical device on the European market and on notified bodies located in the Netherlands.

Every year the inspectorate requests the RIVM to investigate a high risk medical device. In the current study, mesh products intended to treat POP are investigated. The inspectorate requested relevant technical documentation from the manufacturers, which has been assessed by the RIVM. The method used for assessment of the documentation was adapted from previous investigations[3, 4]. The manufacturers have been given the opportunity to check for factual inconsistencies and to respond by submitting additional documentation. After assessment of the additional information from the manufacturers, the RIVM still identified major shortcomings in the technical documentation.

References

1. De Vries, *et al*. Long-term complications of transvaginal mesh implants. A literature review. National Institute for Public Health and the Environment, Bilthoven, the Netherlands. RIVM Report 2018-0130, 2019.
2. European Commission. Council Directive 93/42/EEC of 14 June 1993 concerning medical devices. OJ L 169, 12.7.1993. Amended by Directive 2007/47/EC of the European Parliament and of the Council of 5 September 2007. OJ L 247, 21.9.2007.
3. Keizers P, *et al*. Dermal fillers in the Netherlands. A market surveillance study. National Institute for Public Health and the Environment, Bilthoven, the Netherlands. RIVM Report 2017-0023, 2017.
4. Roszek B, *et al*. Transcatheter aortic heart valves in Europe. A market surveillance study. National Institute for Public Health and the Environment, Bilthoven, the Netherlands. RIVM Report 2017-0170, 2017.

Appendix 1: Overview of mesh products used to treat pelvic organ prolapse included in the technical file assessment of RIVM (1).

#	Manufacturer	Product name	Surgical route transvaginal/ transabdominal
1	A.M.I. GmbH (2)	BSC Mesh	Transvaginal
2	BD/Bard (3)	Alyte Y-Mesh	Transabdominal
3	BD/Bard (3)	Nuvia® SI	Transvaginal
4	Coloplast A/S	Restorelle® DirectFix (4)	Transvaginal
5	Coloplast A/S	Restorelle® Flat Mesh	Transabdominal
6	Coloplast A/S	Restorelle® Y	Transabdominal
7	Ethicon (a Johnson & Johnson subsidiary)	ARTISYN™ Y-Shaped Mesh (5)	Transabdominal
8	Ethicon (a Johnson & Johnson subsidiary)	GYNECARE GYNEMESH™ PS Nonabsorbable PROLENE™ Soft Mesh	Transabdominal
9	Promedon SA	Calistar S	Transvaginal

(1) The following products were included:
- Vaginal implants used to treat pelvic organ prolapse (transvaginal mesh)
- Abdominal implants used to treat pelvic organ prolapse of uterus or the top of the vagina (when uterus is removed) (transabdominal mesh)

Slings, used to treat stress urine-incontinence and abdominal implants used to treat rectal prolapse are not included in this analysis.
(2) November 2019: Notified body suspended CE-certificate of BSC Mesh (A.M.I.).
(3) BD acquired Bard in 2017. March 2019: recall of all mesh products by BD/Bard.
(4) May 2019: Coloplast stopped selling Restorelle® DirectFix.
(5) ARTISYN™ Y-Shaped Mesh is a partially absorbable mesh implant.

Disclaimer: This information is obtained from urogynaecologists and publicly available websites.