

Desmoid Tumors and Pregnancy

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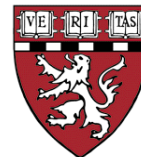
Dana-Farber Cancer Institute

Harvard Medical School

Desmoid Tumor Research Foundation Annual Patient Meeting

Philadelphia, PA

September 27, 2014



History

- Johannes Muller coined the term “desmoid” in 1838
- In 1832, John MacFarlane reported an “organized sarcomatous tumor between the layers of the abdominal muscles” in women who had children



Muller (1838), *Ueber den feinern Bau und die Formen der krankhaften Geschwulste*
MacFarlane (1832), *Clinical Reports of the Surgical Practice of the Glasgow Royal Infirmary*

Background

- Desmoid fibromatosis is partly modulated by hormonal signaling
- Role of specific signaling pathways, such as those mediated by estrogen, is unclear

Rationale

- Desmoids are often diagnosed in young women during or after pregnancy
- This raises concern about potential progression during the current pregnancy or recurrence with a subsequent one
- Limited existing data to guide women with desmoids and their treating clinicians regarding future pregnancy

Desmoid-Type Fibromatosis and Pregnancy

A Multi-institutional Analysis of Recurrence and Obstetric Risk

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Annals of Surgery • Volume 259, Number 5, May 2014

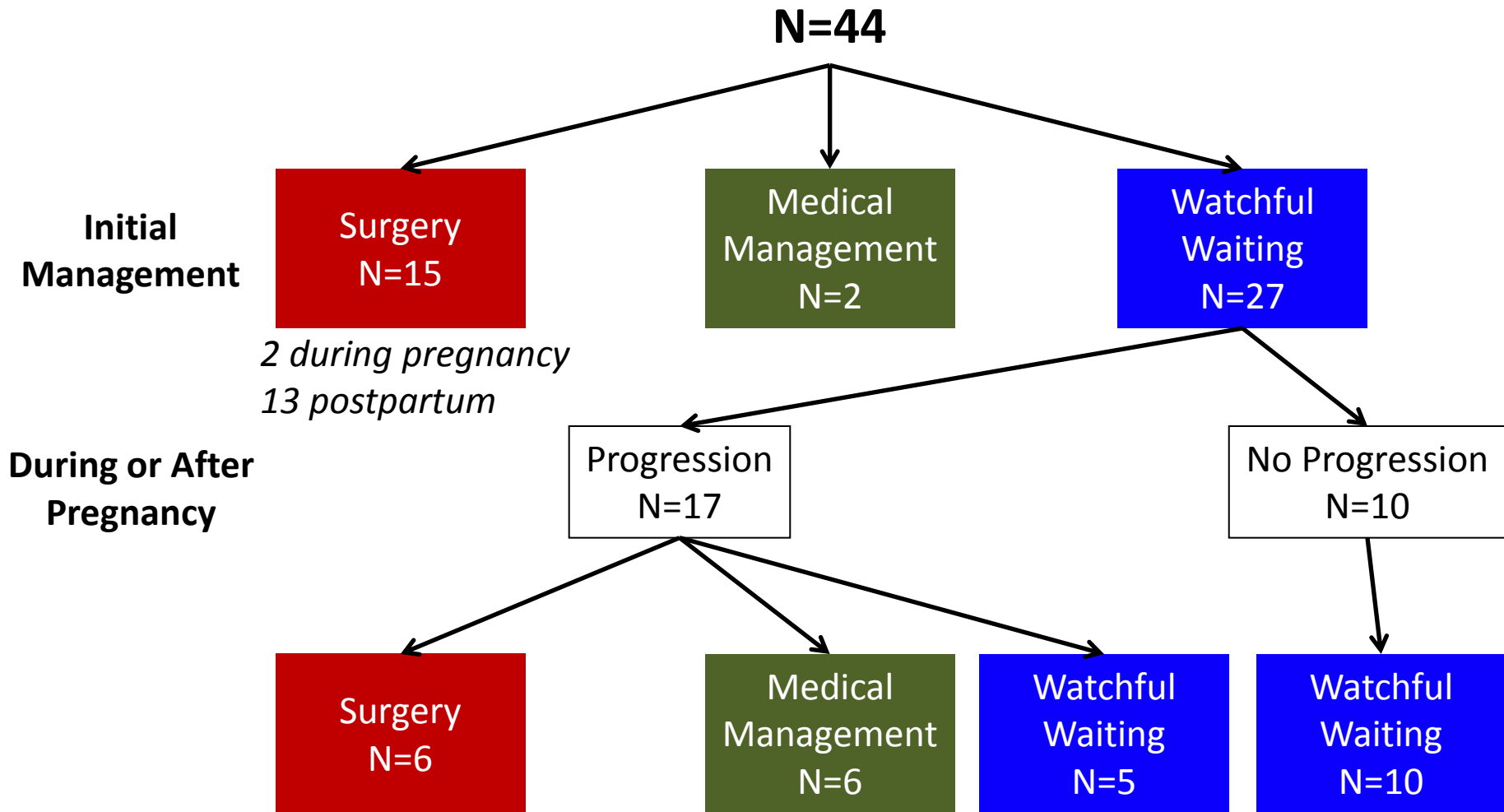
Objectives

- Evaluate women with desmoids in different clinical scenarios
 - Desmoids arising during or shortly after pregnancy
 - Unresected desmoids who later got pregnant
 - Resected desmoids who later got pregnant
- Identify disease-related risk
 - Risk of progression with watchful waiting
 - Risk of recurrence after resection
 - Risk of recurrence during subsequent pregnancy
- Identify obstetric risk

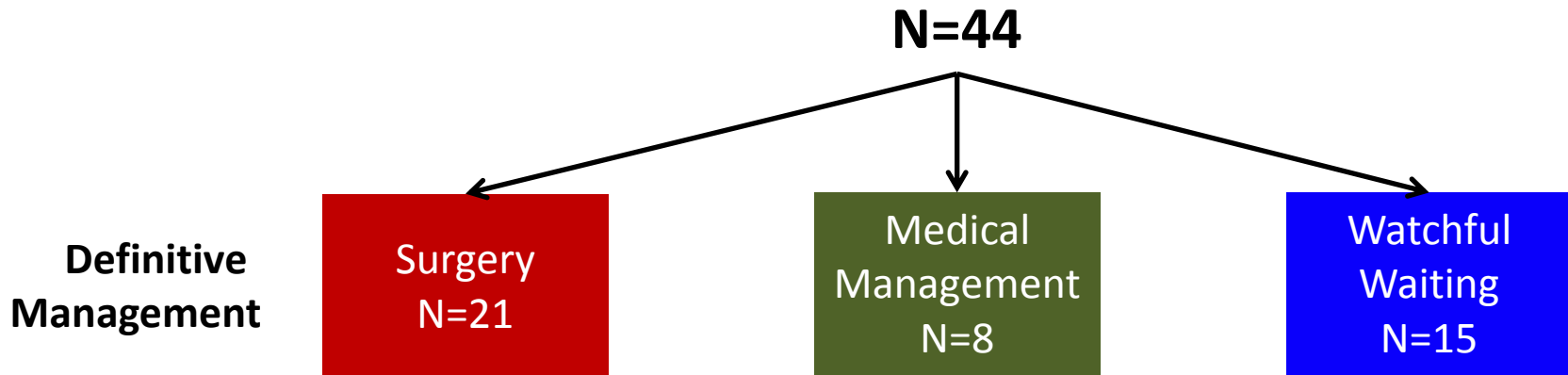
Study Cohort (N=92)

- Data from 4 high volume centers in 4 countries
 - Istituto Nazionale dei Tumori (Milan, Italy)
 - Institut Gustave Roussy (Villejuif, France)
 - Princess Margaret Hospital and Mount Sinai Hospital (Toronto, Ontario, Canada)
 - Brigham and Women's Hospital and Dana-Farber Cancer Institute (Boston, Massachusetts, USA)
- Included
 - Women with desmoids and pregnancy before, during, or after desmoid diagnosis
- Excluded
 - FAP-related desmoids
 - Infantile fibromatosis
 - Palmar/plantar fibromatosis

Pregnancy-Associated Desmoids



Pregnancy-Associated Desmoids

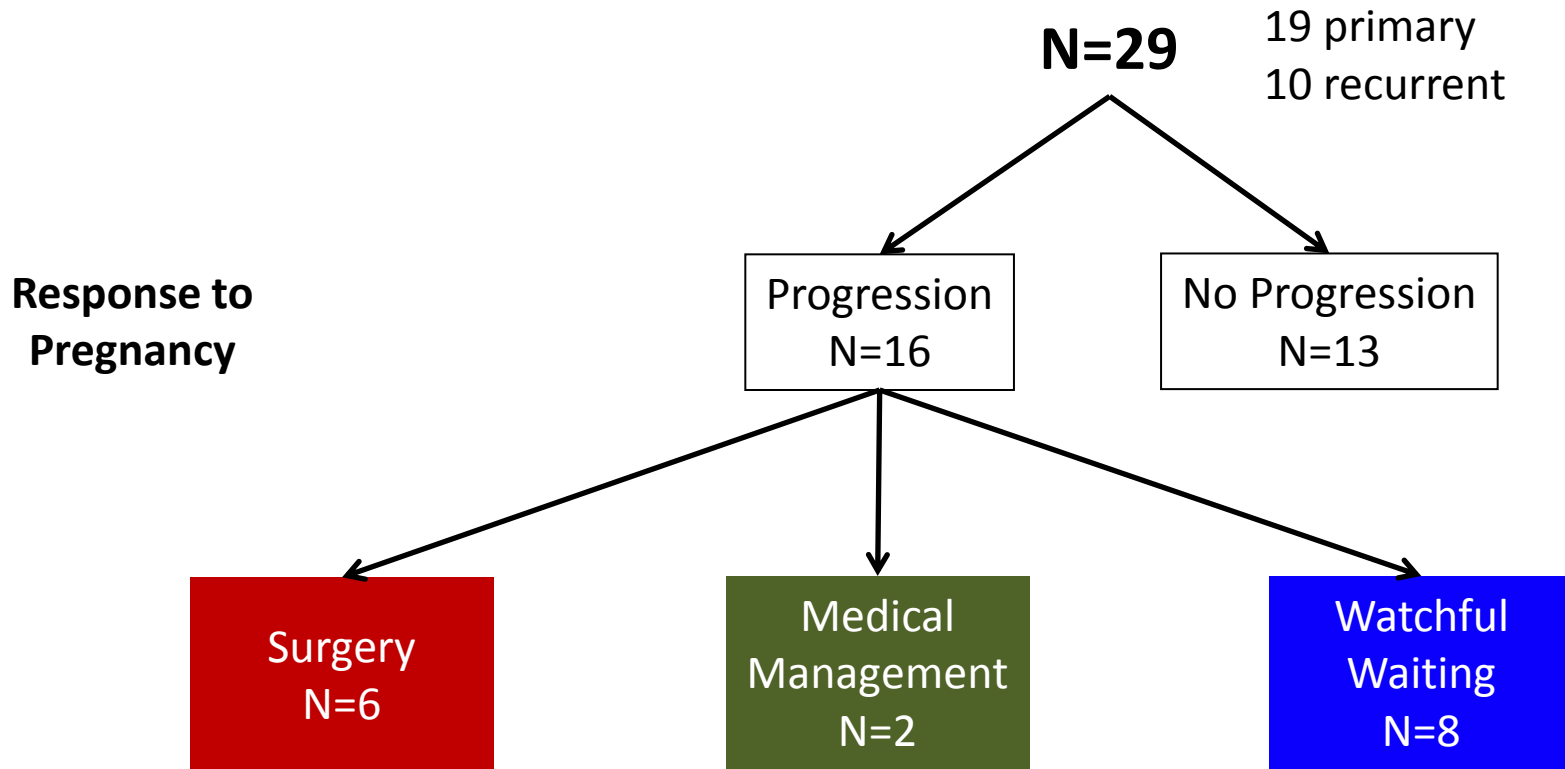


- After initial management
 - **17/27 (63%)** women offered watchful waiting as *initial management* progressed
 - **6/29 (21%)** women offered non-operative therapy as *initial management* required surgery for *definitive management*
 - **23/44 (52%)** women treated non-operatively
- After definitive management
 - **4/44 (9%)** women progressed
 - **2/15 (13%)** women offered surgery as *initial management* progressed
 - **5/44 (11%)** women experienced spontaneous regression

Case Example

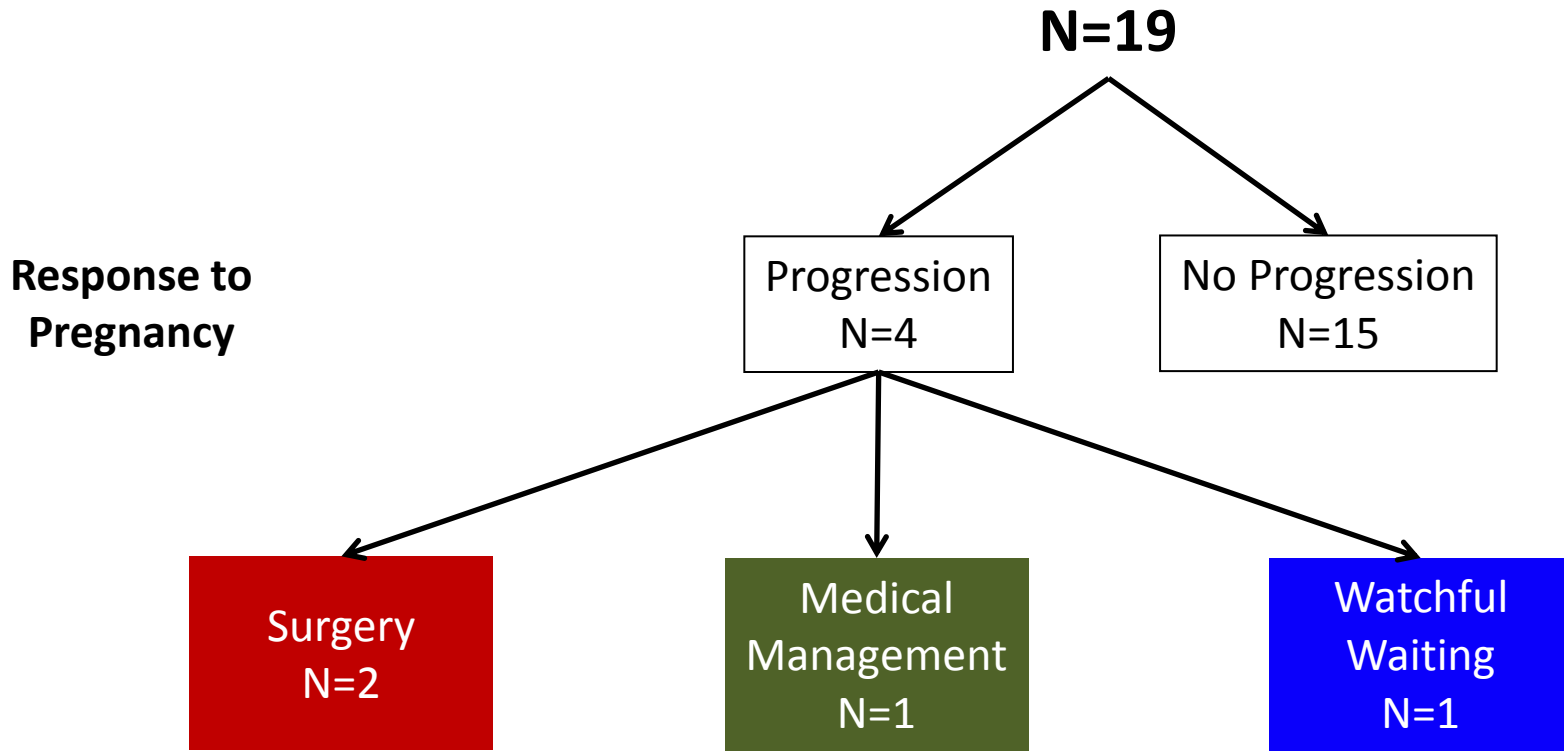
- Young woman diagnosed with 3 cm abdominal wall desmoid after first pregnancy
 - Treatment – watchful waiting, with no growth
- During second pregnancy, tumor grew
 - Treatment – watchful waiting postpartum, with no further growth
- During third pregnancy, tumor grew
 - Treatment – surgery postpartum
- Desmoid only grew during pregnancy

Pregnancy With Unresected Desmoids



- **16/29 (55%)** women with unresected desmoids progressed during pregnancy
- **0/8** women managed with watchful waiting progressed

Pregnancy After Resected Desmoid



- **4/19 (21%)** women with previously resected desmoids progressed during pregnancy

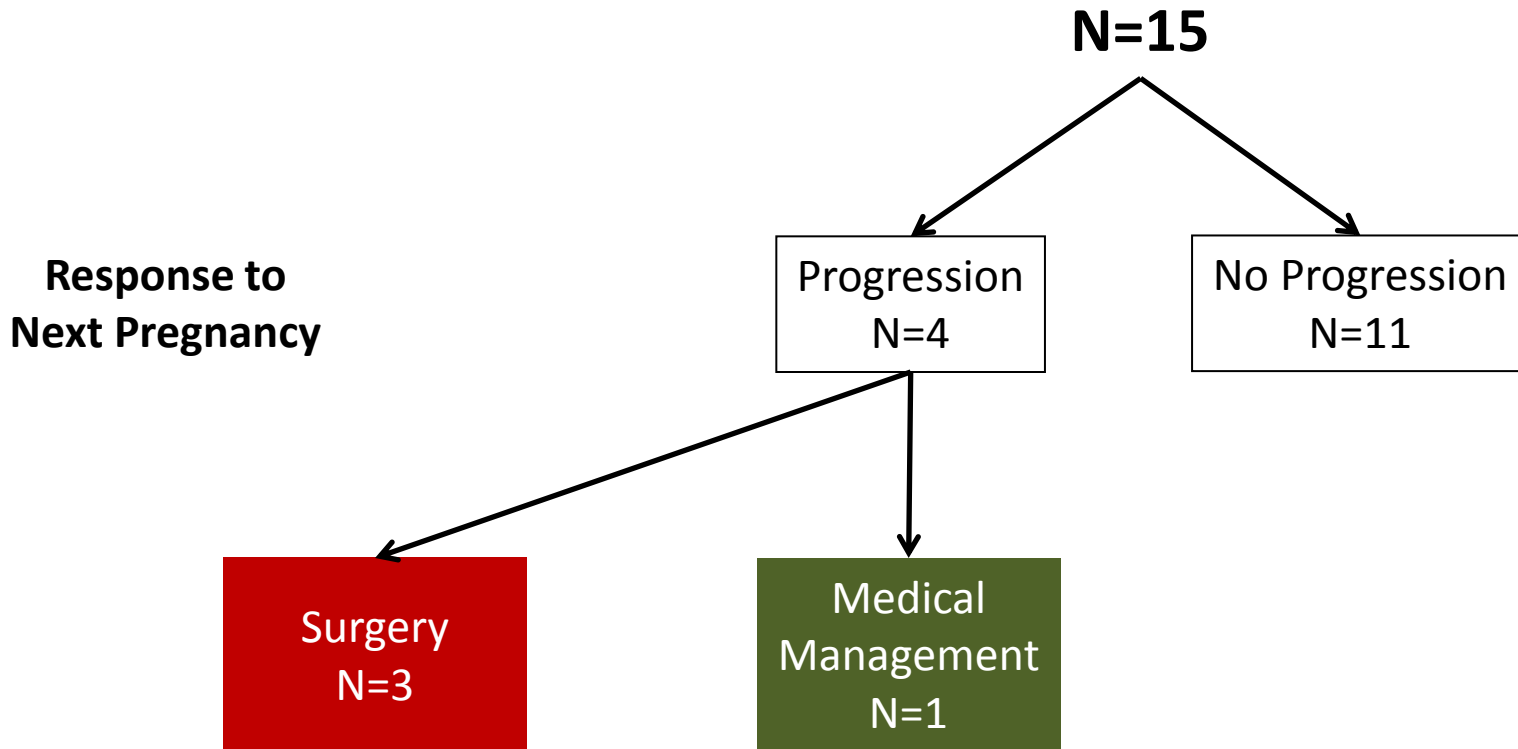
Pregnancy and FAP-Associated Desmoid

- Very limited data
- 47 women with FAP
 - 22 who had never been pregnant
 - 25 who had been pregnant at least once
- Desmoids in women who had been pregnant had a significantly more indolent course
 - Trend towards pregnant women requiring less treatment for desmoid

Obstetric Concerns

- Pregnancy-associated desmoids often arise in abdominal wall muscle (67% in our series)
 - Trauma? Stretching?
- Presence of desmoid did not lead to fetal loss
 - Mesenteric desmoid could make the pregnancy high risk
- Impact on course of pregnancy
 - 1 woman with a vaginal desmoid had to have a C-section

Subsequent Pregnancies



- **4/15 (27%)** women who had a subsequent pregnancy after management of a desmoid progressed during that pregnancy
 - All had been managed after prior pregnancy with watchful waiting

Abdominal Wall Mesh

- Standard synthetic surgical mesh has very little elasticity
 - Great for providing a strong abdominal wall closure
 - NOT so great when the abdomen is stretching during pregnancy
- Biologic mesh, an alternative if considering subsequent pregnancy, has more elasticity
 - Laxity in abdominal wall can mimic a hernia
 - May stretch more during pregnancy
 - Derived from pig, cow, or human cadaver, which may conflict with religious beliefs
- Obstetrician should be notified about the type abdominal wall reconstruction
 - May wish to have a surgeon available if considering a C-section, depending on the level of the mesh

Conclusions

- Having a desmoid does NOT preclude pregnancy
 - Women should NOT be counseled to avoid getting pregnant
 - Women should NOT be advised to have an abortion if pregnant
- Desmoids arising during pregnancy or already present before pregnancy may grow during the course of the pregnancy
 - ~50% can successfully avoid surgery
 - 13% undergoing surgery recur
- Desmoids resected prior to pregnancy recur infrequently during pregnancy (21%)

Conclusions

- Ultimately,
 - **32%** required surgery
 - **54%** managed with watchful waiting
 - **14%** spontaneous regression
- Women can successfully carry subsequent pregnancies after initial desmoid
 - Progression is usually only in women managed with watchful waiting
- The presence of a desmoid does not increase obstetric risk
 - Synthetic mesh used for reconstruction after resection of an abdominal wall desmoid is not as flexible as native tissue

Summary for Counseling

TABLE 4. Available Data for Counseling in Women Affected by Sporadic DF

New diagnosis of DF during or shortly after pregnancy	
Risk of relapse after complete resection	13%
Risk of progression with watchful waiting	63%
Spontaneous regression	11%
Risk of failure after any first active treatment (initial or delayed until the time of progression)	10%
Overall managed without resection	52%
Pregnancy after previous diagnosis of DF	
Risk of DF recurrence/progression	42%
DF recurrence/progression safely managed with either active treatment or watchful waiting	94%
Multiple lines of active treatments needed for progression	6%
Spontaneous regression was described after progression as well	7%
Obstetric risk	
Obstetric complications related to DF in both mother and fetus	0%
Intra-abdominal/pelvic DF should be anyway considered at higher risk (few data available)	
Cesarean delivery to be considered in case of macroscopic DF in particular anatomic sites	
Postpartum incisional hernia after previous abdominal wall full-thickness mesh repair is an issue	

Thank you

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