
# Beyond Abdominal, Extra-abdominal and Intra-abdominal Desmoid Tumors

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18-19 February 2014, Milan, Italy

ESMO GOOD SCIENCE BETTER MEDICINE BEST PRACTICE
European Society for Medical Oncology

# Disclosure slide

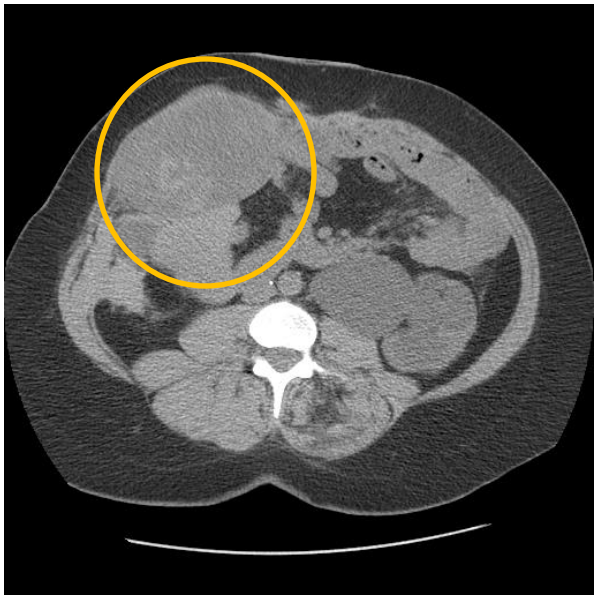
- Novartis speakers bureau for GIST
- Ad hoc consultant for Amgen, Ziopharm
- Clinical research funding from AB Science, Amgen, Janssen, SARC, Threshold, Ziopharm

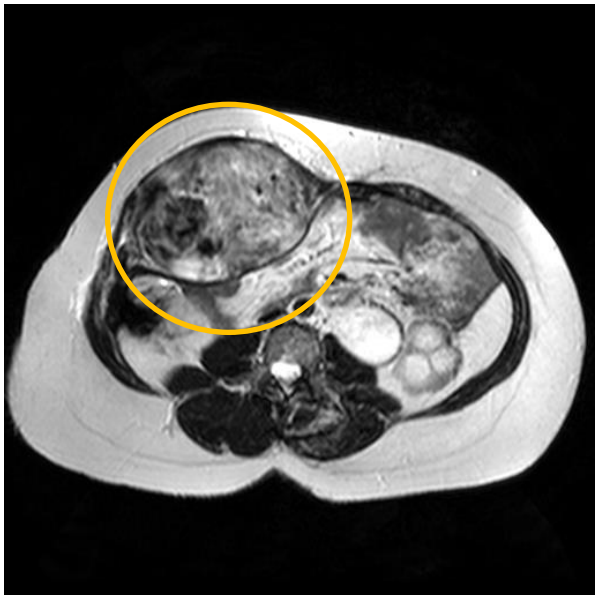
# Desmoid tumor / Aggressive fibromatosis

- Clonal fibroblastic proliferation
- No metastatic potential
- Share features with MSC
- 2-4 cases/million/yr
- Peak incidence 30-40 yrs of age
- Risk factors
  - APC mutation in germ-line
  - Pregnancy
  - Trauma

# Desmoid tumor by location

- Abdominal wall
  - Most common in pregnancy
  - Women >> men



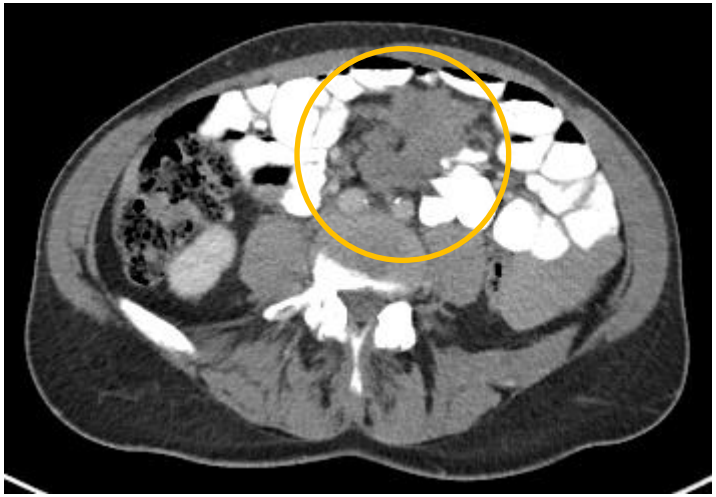


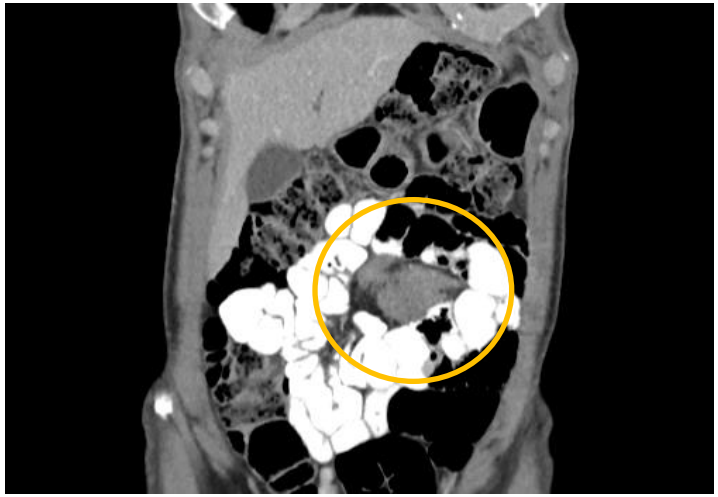
# Desmoid tumor by location

- Extra-abdominal
  - Shoulder/limb girdle, chest wall, head/neck
  - Most common location in children

# Desmoid tumor by location

- Intra-abdominal
  - Mesenteric & pelvic involvement
  - More common in Gardner's syndrome





# Desmoid tumor by patient group

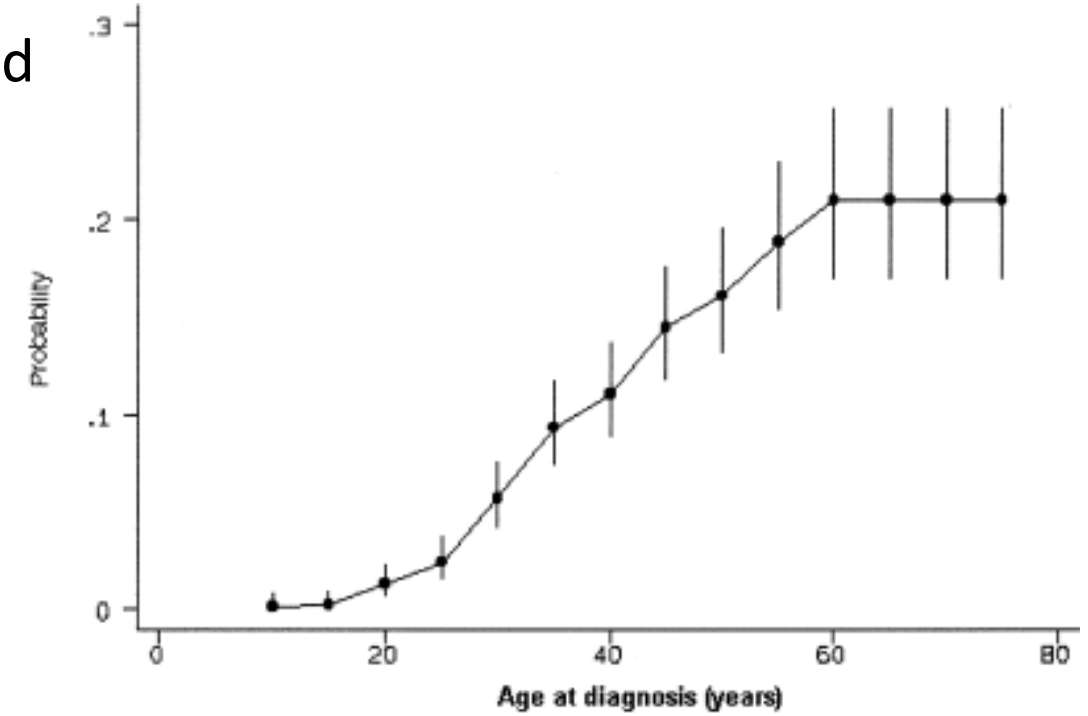
- Genotype: APC / Beta-catenin mutation
- Pregnancy-associated
- Age group: childhood/adulthood
- Unifocal/Multifocal

# Familial adenomatous polyposis and DT

- Gardner's syndrome
  - Polyposis coli, desmoid, osteomas, epidermoid cyst, Gardner fibroma, hypertrophy of retinal pigmented epithelium, thyroid cancer
- 10-20% lifetime risk of desmoid
- Desmoid incidence 1000x greater in FAP than non-affected populations
- 5-10% of pts with desmoid have APC mutation
- APC mutation downstream of codon 1400

# Genotype and phenotype factors as determinants of desmoid tumors in patients with familial adenomatous polyposis

- Mutation beyond codon 1444
- Family history of desmoid
- Female
- Osteomas




Cumulative lifetime risk of desmoid

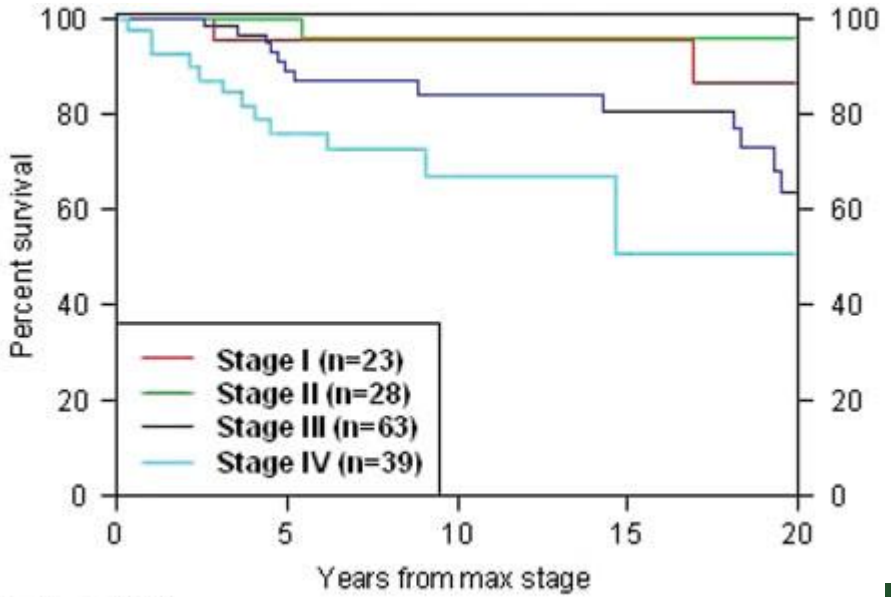
Bertario L et al.
International Journal of Cancer
Volume 95, Issue 2, pages 102-107, 27 FEB 2001

# DT in Gardner's syndrome

- Location
  - 50% abdominal wall
  - 20-30% mesentery
  - 10-20% extra-abdominal

**A Nation-wide Study Comparing Sporadic and Familial Adenomatous Polyposis-related Desmoid-type Fibromatoses**
Nieuwenhuis, MH et al.
Int. J. Cancer. 129:256-261, 2011.

**Mortality of Intra-Abdominal Desmoid Tumors in Patients With Familial Adenomatous Polyposis: A Single Center Review of 154 Patients.**
Quintini, Cristiano et al.
Annals of Surgery. 255(3):511-516, March 2012.




Log rank $P = 0.0001$

# DT and pregnancy

- Occur during pregnancy and within 6-36 months post-partum
- Median age 30 yrs
- Rectus abdominus most common location (>50%) followed by mesentery
- 10-15% of desmoids
- Infrequently associated with FAP

# DT and pregnancy

- Often treated by resection
  - Recurrence <15%
- High rate (>50%) of growth during pregnancy
- 10-20% spontaneous regression
- Very low risk of mortality
- Subsequent pregnancy safe in majority
- Pregnancy not contraindicated in FAP-associated desmoid

Fiore M et al.
**Desmoid-type fibromatosis and pregnancy: a multi-institutional analysis of recurrence and obstetric risk.**
Ann Surg. 2013
Robinson WA et al.
**Desmoid tumors in pregnant and postpartum women.**
Cancers. 4:184-192. 2012
Church JM and McGannon E.
**Prior pregnancy ameliorates the course of intra-abdominal desmoid tumors in patients with familial adenomatous polyposis**.
Dis Colon Rectum. 43:445-450. 2000.

# DT and pregnancy – 4 institution study

**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 | |

Fiore M et al.
**Desmoid-type fibromatosis and pregnancy: a multi-institutional analysis of recurrence and obstetric risk.**
Ann Surg. 2013

# Abdominal wall DT

Ann Surg Oncol (2013) 20:4096–4102
DOI 10.1245/s10434-013-3197-x

Annals of
SURGICAL ONCOLOGY
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY

ORIGINAL ARTICLE – BONE AND SOFT TISSUE SARCOMAS

## Spontaneous Regression of Primary Abdominal Wall Desmoid Tumors: More Common than Previously Thought

Sylvie Bonvalot, MD, PhD[1], Nils Ternès, MS[2], Marco Fiore, MD[3], Georgina Bitsakou, MD[1], Chiara Colombo, MD[3], Charles Honoré, MD[1], Andrea Marrari, MD[4], Axel Le Cesne, MD[5], Federica Perrone, MD[6], Ariane Dunant, MS[2], and Alessandro Gronchi, MD[3]

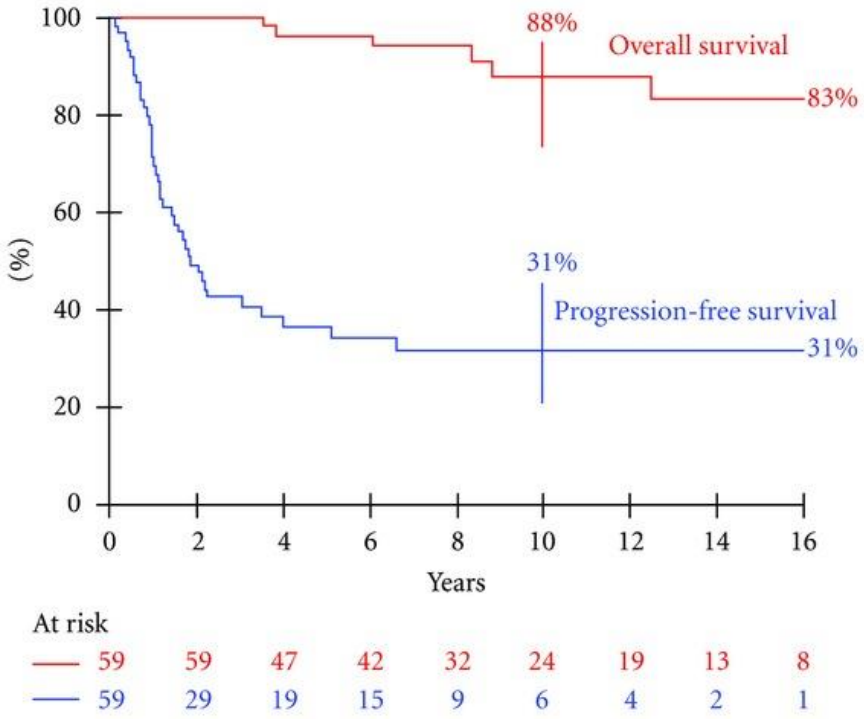
- 147 patients
- 97% female
- 25% associated with pregnancy
- 28% spontaneous regression
- 16% managed by observation or drug therapy required surgery
- Size >7 cm associated with change in management

# DT in childhood

- Median age 11
- Equal sex distribution
- Location
  - Extremity 50%
  - Head/neck 30%
  - Chest wall/trunk 15%
  - Intra-abdominal 5%
- 5-yr EFS 35-45%
  - 77% R0
  - 30% R1
  - 35% observation

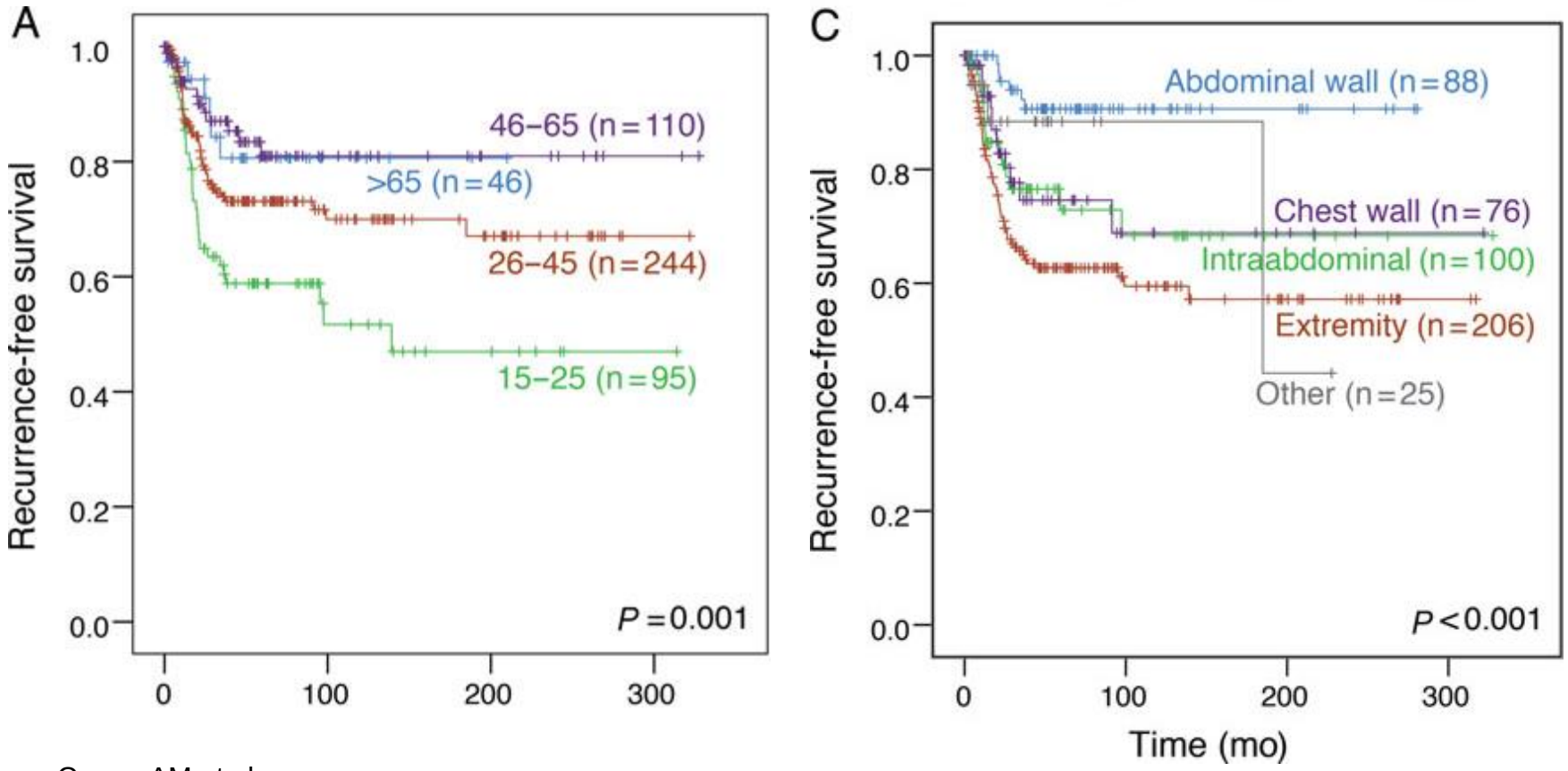
Honeyman, JN et al.
**Desmoid fibromatosis in children and adolescents: a conservative approach to management.**
J Ped. Surg. 48:62-66, 2013.
Meazza, C et al.
**Aggressive fibromatosis in children and adolescents: the Italian experience**
Cancer. 116:233-4-240, 2010.
Skapek, SX et al>
**Vinblastine and methotrexate for desmoid fibromatosis in children: results of a Pediatric Oncology Group phase II trial.**
J Clin Oncol. 25:501-506. 2007.

# Survival in childhood DT




Oudot, C et al.
**Desmoid fibromatosis in pediatric patients: management based on retrosepctive analysis of 59 patients and a review of the literature**.
Sarcoma. 2012:475202.

# DT recurrence risk




Crago, AM et al.
**A prognostic nomogram for prediction of recurrence in desmoid fibromatosis**
Ann Surg. 258:347-353. 2013.

# Multifocal DT

- 1st reported by HM Barber in 1973
- Most often confined to same anatomic region
- May be synchronous or metachronous
- <5% of patients with desmoid
- No identified risk factors for multifocal versus unifocal disease
- No clear difference in management strategy

# Summary

- DT have variable natural history
- Consider context in which DT arises
- Watch and wait strategy is gaining traction
- Spontaneous regression common in pregnancy and abdominal wall DT
- Consider presenting symptoms and long-term impact of intervention in management decisions