



Evidence-based medicine conference

整形外科

報告者: Clerk 1 張家芸

指導醫師: 孫一峰醫師

2007.4.25



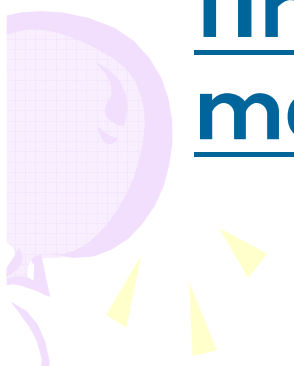
Assess the patient

- Patient: 王 鳳 23520304

27 y/o female

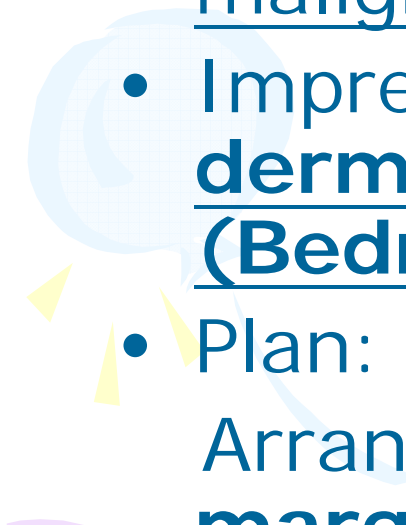

- Chief complain: right upper arm mass noted since 2006.12

- Associated s/s included:
tenderness(-), skin color change(-),
firm(+), border: irregular and
movable(+).





Assess the patient

- Pathology: Pigmented Dermatofibrosarcoma protuberans, malignant
 - Impression: malignant pigmented dermatofibrosarcoma protuberans (Bednar tumor)
 - Plan:
Arrange wide excision with resection margin of 3 cm, depth to fascia
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Asking-1

- **Problem 1:**
- About Dermatofibrosarcoma protuberans



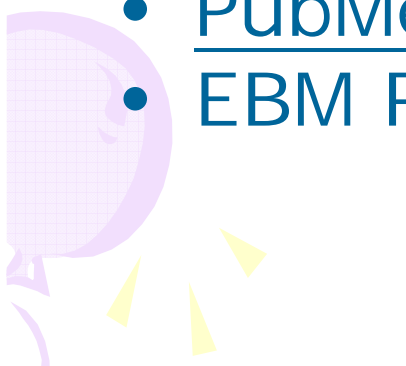
Acquire

Keywords:

- Dermatofibrosarcoma protuberans
- Extremities



Database:

- EBMR: Cochrane Central Register of Controlled Trials -> 0
 - Cochrane Library -> 0
 - PubMed -> 16
 - EBM Reviews - ACP Journal Club -> 0
- 

Appraisal

謹慎的文獻評讀 (Appraisal) [Ⓢ]

文獻等級：4 [Ⓢ]

Level [Ⓢ]	Therapy/Prevention, Aetiology/Harm [Ⓢ]	
1a [Ⓢ]	SR (with homogeneity*) of RCTs [Ⓢ]	[Ⓢ]
1b [Ⓢ]	Individual RCT (with narrow Confidence Interval) [Ⓢ]	[Ⓢ]
1c [Ⓢ]	All or none [Ⓢ]	[Ⓢ]
2a [Ⓢ]	SR (with homogeneity*) of cohort studies [Ⓢ]	[Ⓢ]
2b [Ⓢ]	Individual cohort study (including low quality RCT, e.g., <80% follow-up) [Ⓢ]	[Ⓢ]
2c [Ⓢ]	"Outcomes" Research; Ecological studies [Ⓢ]	[Ⓢ]
3a [Ⓢ]	SR (with homogeneity*) of case-control studies [Ⓢ]	[Ⓢ]
3b [Ⓢ]	Individual Case-Control Study [Ⓢ]	[Ⓢ]
4 [Ⓢ]	<i>Case-series (and poor quality cohort and case-control studies§§) [Ⓢ]</i>	[Ⓢ]
5 [Ⓢ]	Expert opinion without explicit critical appraisal, or based on physiology bench research or "first principles" [Ⓢ]	[Ⓢ]



Revision surgery in dermatofibrosarcoma protuberans of the trunk and extremities.

- 
- *Lindner NJ; Scarborough MT; Powell GJ; Spanier S; Enneking WF SO*
 - *Eur J Surg Oncol 1999*
 - **Appraisal** 證據等級: *Clinical Review*
- 




Patient

- Between 1975 and 1996, 35 cases of DFSP were treated at the University of Florida.
- Of these, 1 was treated primarily, 5 were treated for local recurrence, 17 had tumor bed excisions following inadequate primary excisions elsewhere and 12 had tumor bed excisions following inadequate resection of local recurrences elsewhere.





Intervention

The data were analysed to assess the impact of

- Age
 - Gender
 - duration of symptoms
 - tumor site and size
 - surgical margin
 - number of operations and adjuvant treatments on survival and local recurrence outcomes.
- 

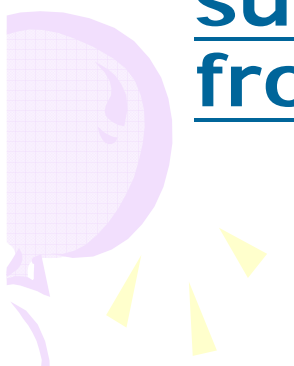


Outcome

- Complete follow-up was available for 34 patients. Mean follow-up was 58 months (range 12-144 months).
 - 33 patients remain alive and disease-free. One patient died of unrelated causes.
 - The margins obtained were wide in 28 patients, marginal in 6 and intralesional in 1.
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Outcome

- No patient with an adequate margin developed a local recurrence.
 - No patient developed lymphatic or distant metastasis.
 - Local recurrences were more likely to be classified Stage IB (17/17) than primary tumours (1/18) ($P < 0.001$). Local recurrence was more likely where the surgical margin was less than 2.5 cm from the lesion.
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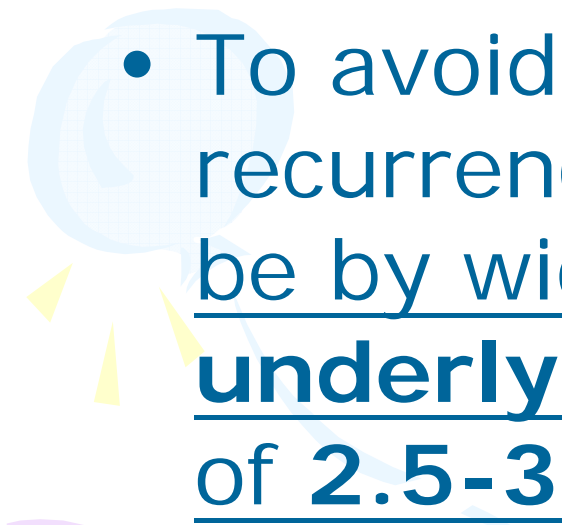
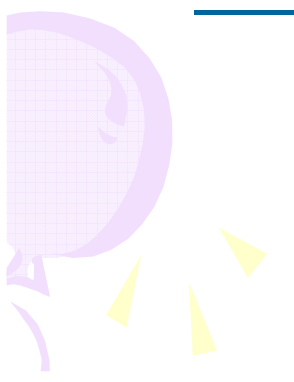


Conclusions

- Dermatofibrosarcoma protuberans is a low-grade tumour that has a **high potential for local recurrence** unless it can be completely excised.
- The overall rate of local recurrence in referred patients in this series was 20/35 cases (57%).





Conclusions

- Revision surgery in these patients showed a local recurrence rate of 8%.
 - To avoid extensive surgery for recurrences, initial treatment should be by wide excision incorporating the underlying deep fascia and a cuff of 2.5-3 cm of normal skin tissue.
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Asking-2

–A Foreground Question

- Adjuvant chemotherapy is commonly recommended in conjunction with resection of large tumors, or when the surgical margins are close or positive and further surgery is not feasible
 - **Appraisal Problem 2 : What is the effects of adjuvant chemotherapy in the patient with resectable soft tissue sarcoma after such local treatment?**
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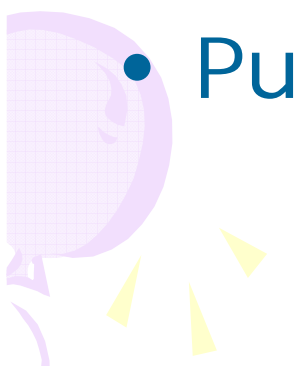
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Keywords:

- Sarcoma
- Adjuvant chemotherapy



Database:

- Chocrane library -> 6
 - PubMed -> 162
- 

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View: 1-6

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- Adjuvant chemotherapy for localised resectable soft tissue sarcoma in adults**
Sarcoma Meta-analysis Collaboration (SMAC)* (see Acknowledgements Section for list of authors in SMAC)
Year: 2000
[Record](#) **Review**
- Doxorubicin-based chemotherapy for the palliative treatment of adult patients with locally advanced or metastatic soft tissue sarcoma**
VHC Bramwell, D Anderson, Charette ML and the Sarcoma Disease Site Group* (see Acknowledgements)
Year: 2001
[Record](#) **Review**
- Treatment of Kaposi sarcoma in HIV-1 infected individuals with emphasis on resource poor settings**
M Dedicoat, M Vaithilingum, R Newton
Year: 2003



Adjuvant chemotherapy for localised resectable soft tissue sarcoma in adults.



Sarcoma Meta-analysis Collaboration (SMAC) Year: 2000*



證據等級: *Systemic review*



Patient

- The authors searched the Cochrane Controlled Trials Register, UKCCCR Register of Cancer Trials, Physicians Data Query, EMBASE, MEDLINE and CancerLit.
- SELECTION CRITERIA: **Randomised trials** of adjuvant chemotherapy after local treatment in adults with localised resectable soft tissue sarcoma were included.

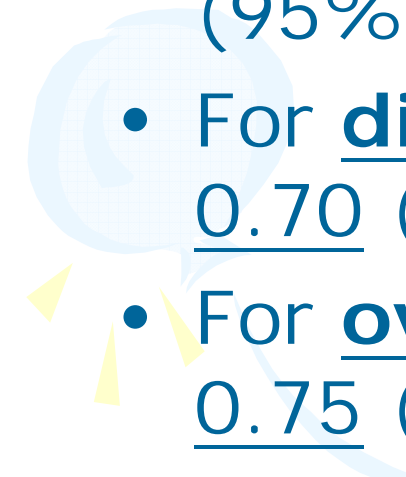

A decorative graphic on the left side of the slide features three balloons: a green one at the top, a light blue one in the middle, and a purple one at the bottom. Each balloon is attached to a streamer with several yellow triangular flags. The balloons have a grid-like texture.

Intervention

- 14 trials of doxorubicin-based adjuvant chemotherapy involving 1568 patients were included.
- Median follow-up was 9.4 years.




Outcome

- For **local** recurrence-free interval the hazard ratio with chemotherapy was 0.73 (95% Confidence Interval 0.56-0.94).
 - For **distant** recurrence-free interval it was 0.70 (95% CI 0.57-0.85).
 - For **overall** recurrence-free survival it was 0.75 (95% CI 0.64-0.87).
 - These correspond to significant absolute benefits of 6-10% at 10 years.
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Outcome

- There was no consistent evidence of a difference in effect according to age, sex, stage, site, grade, histology, extent of resection, tumor size or exposure to radiotherapy.
 - The strongest evidence of a beneficial effect on survival was shown in patients with sarcoma of the **extremities**.
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Conclusions

- Doxorubicin-based adjuvant chemotherapy appears to significantly improve time to local and distant recurrence and overall recurrence-free survival in adults with localised resectable soft tissue sarcoma.
 - There is some evidence of a trend towards improved overall survival.
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Asking -3

-A Foreground Question

- *Mohs micrographic surgery (MMS) is a choice of treatment for resection of large tumors and those in anatomically challenging areas such as the head or neck.*
 - **Problem 3: What is the difference between Mohs micrographic surgery and wide surgical excision for the treatment of dermatofibrosarcoma protuberans ?**
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Acquire

Keywords:

- Mohs micrographic surgery
- Wide surgical excision
- Dermatofibrosarcoma protuberans

Database:

- 
- PubMed -> 17

12: [Menon P, Smith KJ, Crittenden J, Skelton H.](#) Related Articles, Links

Adjuvant therapy with hyaluronidase prior to excision of dermatofibrosarcoma protuberans.
Dermatol Surg. 1999 Mar;25(3):205-9.
PMID: 10193968 [PubMed - indexed for MEDLINE]

 13: [Ratner D, Thomas CO, Johnson TM, Sondak VK, Hamilton TA, Nelson BR, Swanson NA, Garcia C, Clark RE, Grande DJ.](#) Related Articles, Links

Mohs micrographic surgery for the treatment of dermatofibrosarcoma protuberans. Results of a multiinstitutional series with an analysis of the extent of microscopic spread.
J Am Acad Dermatol. 1997 Oct;37(4):600-13.
PMID: 9344201 [PubMed - indexed for MEDLINE]

 14: [Haycox CL, Odland PB, Olbricht SM, Casey B.](#) Related Articles, Links

Dermatofibrosarcoma protuberans (DFSP): growth characteristics based on tumor modeling and a review of cases treated with Mohs micrographic surgery.
Ann Plast Surg. 1997 Mar;38(3):246-51. Review.
PMID: 9088462 [PubMed - indexed for MEDLINE]

 15: [Gloster HM Jr, Harris KR, Roenigk RK.](#) Related Articles, Links


A comparison between Mohs micrographic surgery and wide surgical excision for the treatment of dermatofibrosarcoma protuberans.
J Am Acad Dermatol. 1996 Jul;35(1):82-7. Review.
PMID: 8682970 [PubMed - indexed for MEDLINE]

 16: [Fish FS.](#) Related Articles, Links

Soft tissue sarcomas in dermatology.
Dermatol Surg. 1996 Mar;22(3):268-73. Review.
PMID: 8599739 [PubMed - indexed for MEDLINE]

 17: [Parker TL, Zitelli JA.](#) Related Articles, Links

Surgical margins for excision of dermatofibrosarcoma protuberans.
J Am Acad Dermatol. 1995 Feb;32(2 Pt 1):233-6.
PMID: 7829708 [PubMed - indexed for MEDLINE]

- 
- **A comparison between Mohs micrographic surgery and wide surgical excision for the treatment of dermatofibrosarcoma protuberans.**



- *J Am Acad Dermatol 1996 Jul; 35(1):82-7*

- **Appraisal** 證據等級:

- **Retrospective review**



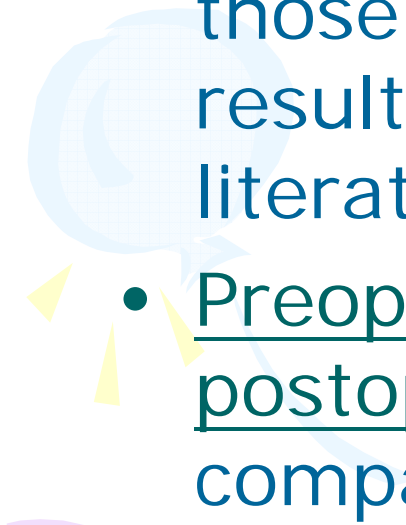



Patient

- The medical records of 84 patients with DFSP who had been treated at the Mayo Clinic were reviewed.
 - They were categorized into two treatment groups: MMS and surgical excision.
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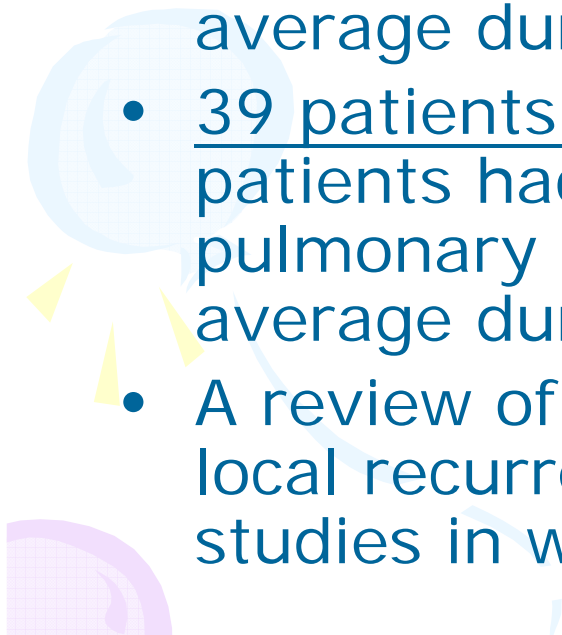
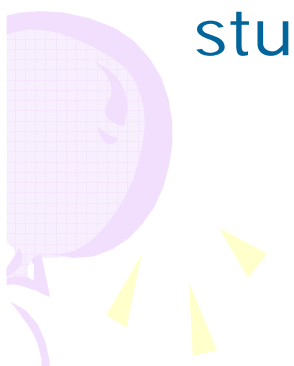


Intervention

- This study retrospectively compared the recurrence rates of DFSP after **MMS** with those after **wide surgical excision**; results at the Mayo Clinic and in the world literature were evaluated.
 - Preoperative tumor sizes and postoperative defect sizes after MMS were compared to determine whether MMS conserved more normal tissue than wide surgical excision.
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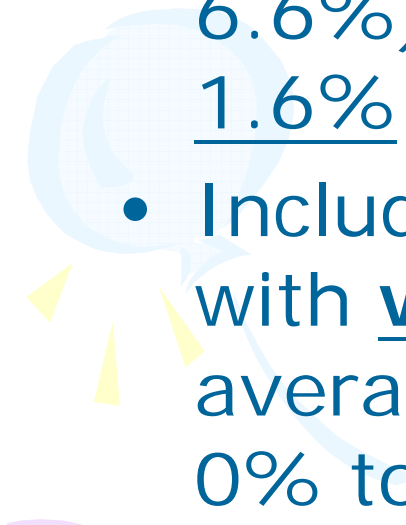



Outcome

- 15 patients with DFSP who underwent **MMS** had follow-up data available; one of these patients had local recurrence (**recurrence rate, 6.6%**; average duration of follow-up, 40 months).
 - 39 patients had **wide excision**; 4 of these patients had local recurrences and one had pulmonary metastases (**recurrence rate, 10%**; average duration of follow-up, 36 months).
 - A review of the world literature revealed neither local recurrences nor metastases in the 11 studies in which DFSP was treated with MMS.
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Outcome

- Overall, the average recurrence rate of DFSP after **MMS** was 0.6% (range, 0% to 6.6%) and the total recurrence rate was 1.6% (1 of 64).
 - Including the series, DFSP was treated with wide excision in 15 studies; the average recurrence rate was 18% (range, 0% to 60%) and the total recurrence rate was 20% (100 of 489).
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Outcome

- In 8 published studies, DFSP was surgically resected with undefined or conservative excisional margins; the average recurrence rate was 43% (range, 26% to 60%) and the total recurrence rate was 44% (140 of 317).
 - 22 % of tumors were removed with a 0.5 cm margin, 50% with a 1.0 cm margin, 67% with a 1.5 cm margin, and 89% with a 2.0 cm margin.
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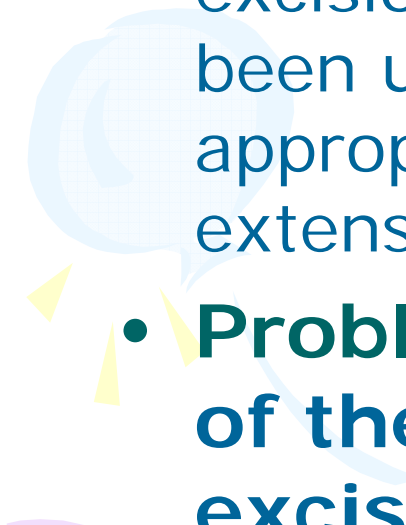

Conclusion

- On the basis of the results and data compiled from the literature, **MMS** may be the treatment of choice for DFSP because of its high cure rate and maximal conservation of tissue.



Asking-4

–A Foreground Question

- Dermatofibrosarcoma protuberans (DFSP) commonly recurs after standard surgical excision with a wide margin. No studies have been undertaken to objectively determine the appropriate surgical margins by measuring the extension of the subclinical tumor.
 - **Problem 4: What is the optimal width of the resection margin in the excision of dermatofibrosarcoma protuberans ?**
- 
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Acquire

Keywords:

- **Dermatofibrosarcoma protuberans**
- **Margin of excision**



Database:

- **PubMed -> 12**
- 

All Databases PubMed Nucleotide Protein Genome Structure OMIM PMC Journals Books
Search PubMed for Dermatofibrosarcoma protuberans, surgical treatment [Go] [Clear] [Save Search]

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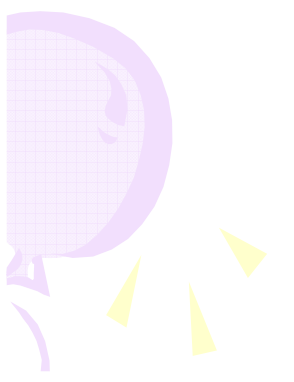
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- 161: [Roses DF, Valensi Q, LaTrenta G, Harris MN.](#) Related Articles, Links
Surgical treatment of dermatofibrosarcoma protuberans.
Surg Gynecol Obstet. 1986 May;162(5):449-52.
PMID: 3704900 [PubMed - indexed for MEDLINE]
- 162: [RowSELL AR, Poole MD, Godfrey AM.](#) Related Articles, Links
Dermatofibrosarcoma protuberans: the problems of surgical management.
Br J Plast Surg. 1986 Apr;39(2):262-4.
PMID: 3697573 [PubMed - indexed for MEDLINE]
- 163: [Hess KA, Hanke CW, Estes NC, Shideler SJ.](#) Related Articles, Links
Chemosurgical reports: myxoid dermatofibrosarcoma protuberans.
J Dermatol Surg Oncol. 1985 Mar;11(3):268-71.
PMID: 3973198 [PubMed - indexed for MEDLINE]
- 164: [Charuwichitratana S, Polnikorn N, Timpatanapong P.](#) Related Articles, Links
Dermatofibrosarcoma protuberans of the penis: a case report.
J Med Assoc Thai. 1981 Mar;64(3):148-51. No abstract available.
PMID: 7241005 [PubMed - indexed for MEDLINE]

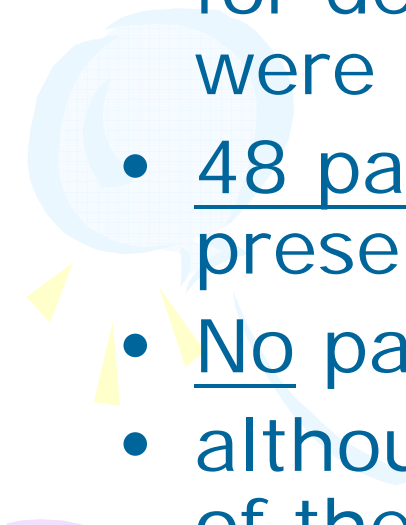



Resection margin-1

- Surgical treatment of dermatofibrosarcoma protuberans.
 - *Surg Gynecol Obstet 1986 May*
 - Appraisal 證據等級: Clinical review
- 
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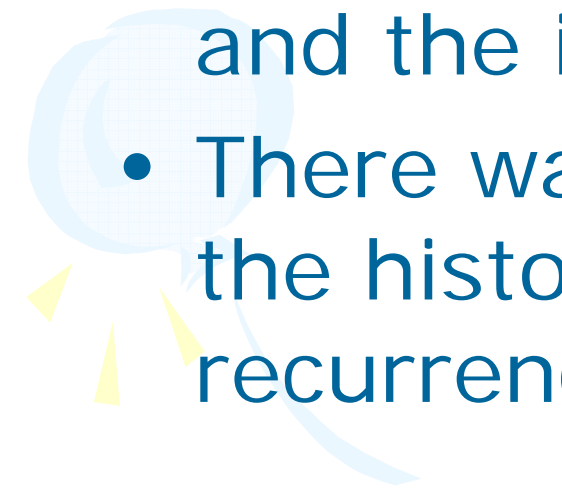
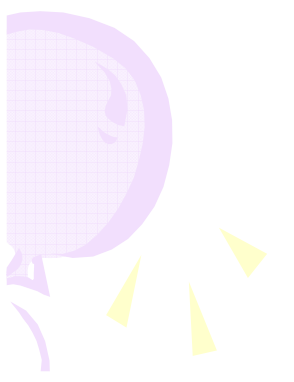


Patient

- The clinical course and histopathologic factors of 50 consecutive patients treated for dermatofibrosarcoma protuberans were reviewed.
 - 48 patients were observed until the present time or death.
 - No patient had distant metastases develop,
 - although 16 patients had 18 recurrences of the dermatofibrosarcoma protuberans at the site of initial therapy.
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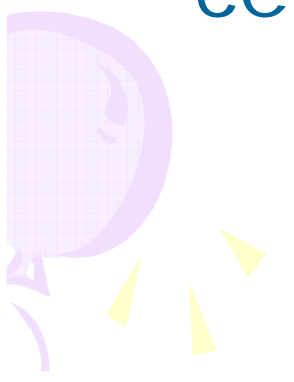
Intervention

- There was no correlation between the diameter of the primary lesion and the incidence of recurrence.
 - There was no correlation between the histologic pattern of invasion and recurrence.
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Outcome

A trend toward decreasing recurrence was noted with increasing minimal margins of resections :

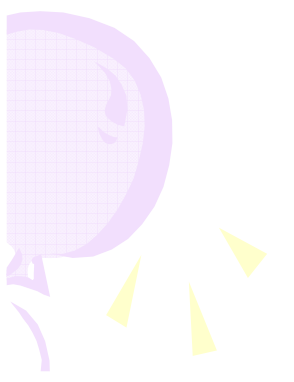
- 41 % less than 2 centimeters versus
 - 24 % greater than or equal to 2 centimeters
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Outcome



- The lowest incidence of recurrence (20 %) was noted with minimal margins of resection greater than or equal to 3 centimeters.


Five year recurrence free survival rates increased with increasing margins of resection—

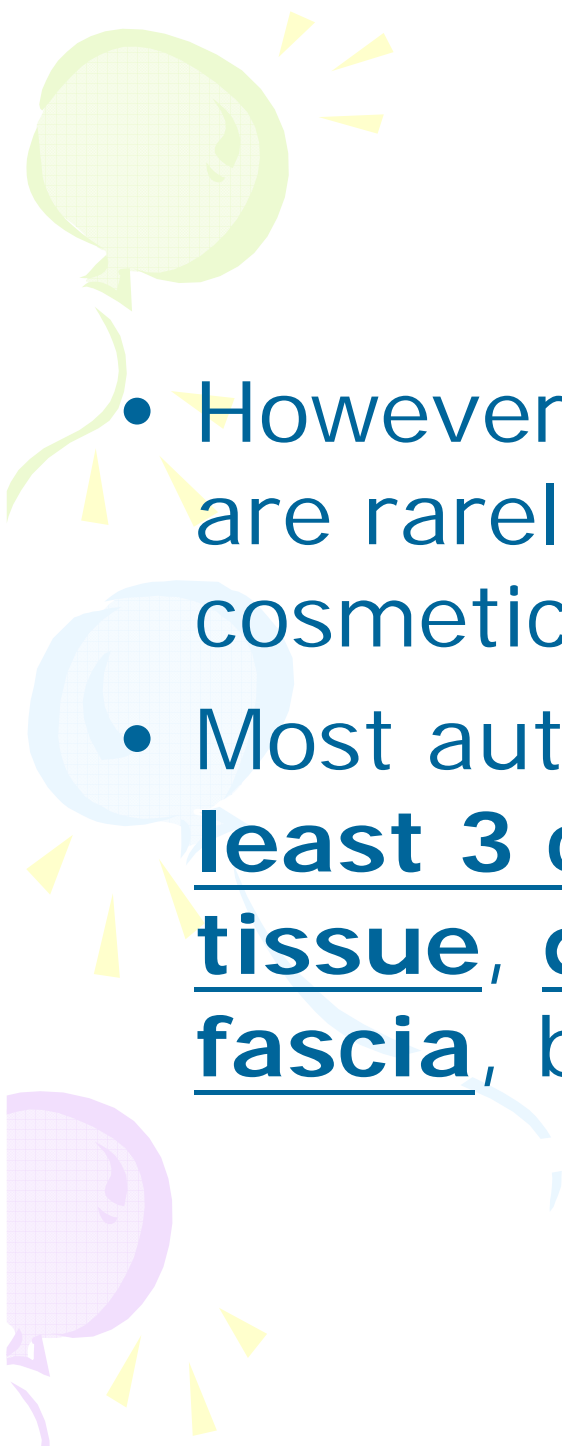
- 59 % less than 1 centimeter
 - 66 % greater than or equal to 1 centimeter
 - 70 % greater than or equal to 2 centimeters
 - 80 % greater than or equal to 3 centimeters.
- 



Resection margin-2

- **Dermatofibrosarcoma protuberans: experience with 14 cases.**
 - *J Eur Acad Dermatol Venereol. 2001 Sep; 15(5)*
 - 證據等級：*Clinical experience*
- 
- 


- 
- The high rate of recurrence of this tumour is correlated with poor surgical management because lesions, often smaller than 2 cm in diameter, may be confused with dermatofibroma or keloid.
 - Our findings confirm the importance of accurate diagnosis of primary lesions and the need for aggressive surgical treatment (**excision of 5 cm of surrounding tissue**) to lower the incidence of local relapse.

- 
- However, in practice, such margins are rarely possible without significant cosmetic and/or functional deficit.
 - Most authorities recommend that **at least 3 cm of normal uninvolved tissue, down to and including the fascia**, be resected if possible.




Resection margin-3

- **Surgical margins for excision of dermatofibrosarcoma protuberans.**
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- **Patient** - The authors measure the subclinical extent of tumor in 20 patients with DFSP to determine appropriate surgical margins.
 - **Intervention**- mapped the subclinical tumor extension with Mohs micrographic surgery and measured the surgical margins required to clear the tumor completely.

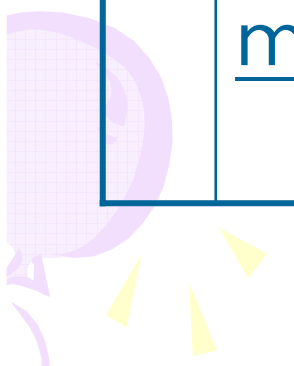


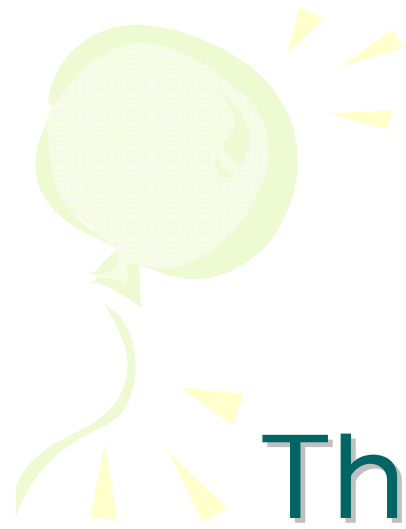
Outcome

- They found that a 2.5 cm surgical margin through the deep fascia (nonscalp) or periosteum (scalp) cleared all of the tumors.
 - DFSP tumors that measured less than 2 cm were completely cleared with a 1.5 cm surgical margin.
 - None of their patients had a recurrence of the tumor, and in 16 of 20 patients repairs were possible.
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Conclusion of All

- | | |
|----|--|
| 1. | <u>Adjuvant chemotherapy</u> appears to significantly improve time to local and distant recurrence |
| 2. | <u>MMS</u> may be the treatment of choice for DFSP because of its <u>high cure rate</u> and <u>maximal conservation of tissue</u> |
| 3. | The <u>optimal width of the resection margin</u> is <u>controversial</u> . |
- 



Thank for your attention !

