

Laser Medicine for Breast Cancer Survivors

Join the Public Awareness Campaign



Groupe Laser
Société Tunisienne de Dermatologie et de Vénérologie

Chronic Radiation Dermatitis

A treatable skin disease

Breast Cancer - What are the numbers?

1,7 Million new breast cancer diagnosis/year worldwide

> 80% long term survival

99% 5-year survival if cancer affects only breast

More than 80 % of all women
survive their breast cancer > 10 years

RADIOTHERAPY SAVES LIVES!

3,2 Million Survivors in 2012

In developed countries, there are currently
3,2 Million women having survived their
breast cancer > 5 years

Problems for Long-Term Survivors?

- **“1/3 have chronic radiation dermatitis of the treated area 10 years after their treatment”**
- “14% have chronic radiation dermatitis 5 years after their treatment”
- “3 -13 % have telangiectasias 6 years after breast conserving treatment”

What is Chronic Radiation Dermatitis

- Cells are damaged due to radiation therapy
- Skin signs:
 - Frequent:
 - **Enlarged red blood vessels (telangiectasias)**
 - Uneven Pigment (Dyspigmentation)
 - Permanent loss of skin structures like hair, sweat glands, and others (atrophy of adnexal structures)
 - Thin, dry skin (epidermal and dermal atrophy)
 - Hardening of the skin (dermal fibrosis)
 - Rarely:
 - skin ulcers,
 - skin cancers (Basal cell carcinomas, squamous cell carcinomas)



Morbidity in Breast-Conserving treatment

- “After a median follow-up time of 6.6 years, 27 % regarded the cosmetic result as less than good.”
- “Morbidity assessments showed that breast fibrosis, **skin telangiectasia**, and breast retraction were significantly associated with a less satisfactory cosmetic result.”
- “Self-assessments of breast morbidity and psychological distress were significantly related to the observed treatment-induced side effects after breast-conserving treatment”

Treatment for Chronic Radiation Dermatitis?

- Women are embarrassed about this disease and do not yet look actively for treatment
- If looking for treatment they mostly address it with:
 - Primary Care Physician
 - Oncologist
 - Ob/Gyn
- Current Care Proposed to most survivors:
 - Reassurance that it is not a recurrence of the cancer
 - Sometimes topical cream – efficacy is questionable

Laser Medicine for Chronic Radiation Dermatitis



Before

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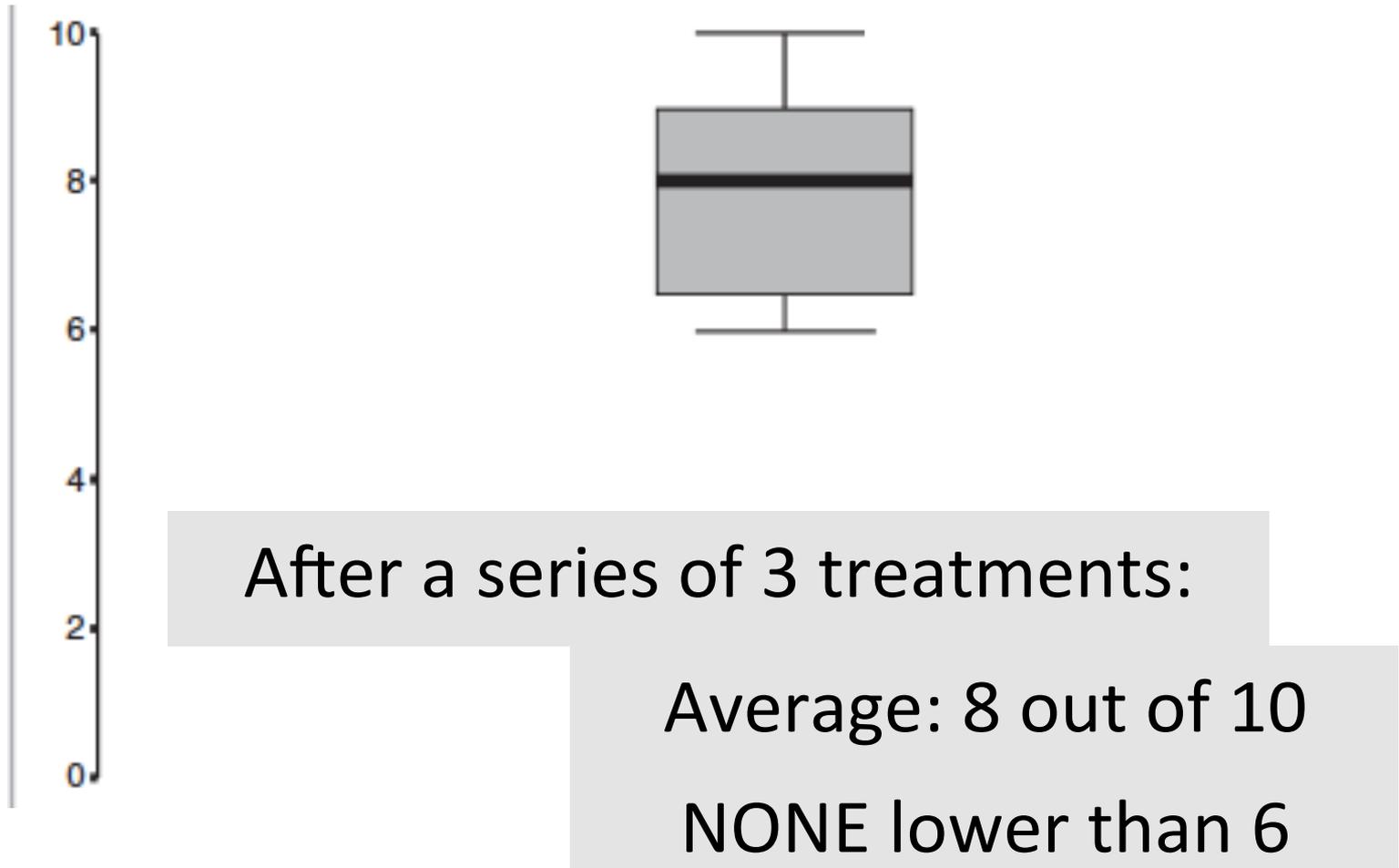
After

Laser Medicine for Chronic Radiation Dermatitis



Drs. Rossi, Nehal, & Lee; New York, USA

Survivor Satisfaction after Laser Therapy



Comments after Laser Therapy

- Some patient statements after 3 treatments:
 - “I have an increased self-esteem”
 - “I can get undressed in front of my partner again without being ashamed.”
 - “I am able to wear again clothing that I like.”

Source: Drs. Rossi, Nehal, & Lee; Sloan Kettering Cancer Center, New York, USA, 2014

Laser Medicine For Breast Cancer Survivors

- A considerable number of breast cancer survivors have chronic skin disease 10 years after tx
- Worldwide unaddressed public health issue
- In France (well developed health care system):
 - 65000 new breast cancer patients/year
 - > 10000 survivors/year with chronic radiation dermatitis
 - Max. 500 survivors are treated with laser therapy per year

Public Awareness Campaign

JGL June 2016, Paris

- EADV Sept 2017, Geneva



Groupe Laser
Société Tunisienne de Dermatologie et de Vénérologie

REFERENCES

Source

- “More than 80% of women survive their breast cancer - thanks to modern medicine and radiation therapy”
- “99% 5 year survival if cancer only in breast”
- *American Cancer Society, Cancer Facts & Figures 2016, and the National Cancer Institute Surveillance Epidemiology and End Results (SEER) database.*

Source

- “1,7 Million new cases of breast cancer in 2012 worldwide”
- “In developed countries there are 3,2 Million women having survived their breast cancer > 5 years”
- “Breast Cancer Incidence France (metropolitan) 2012: 104,5/100.000”
 - Source: World Cancer Research Fund International (wcrf.org)
 - Ferlay J et al., Cancer incidence and Mortality worldwide: IARC Cancer Base 11. Lyon, France: International Agency for research on Cancer 2014

Source

- “after a median follow-up time of 6.6 years, 73% regarded the cosmetic result as excellent or good.”
- “Morbidity assessments showed that breast fibrosis, **skin telangiectasia**, and breast retraction were significantly associated with a less satisfactory cosmetic result.”
- “3- 13% of breast cancer survivors have telangiectasias”
- “self-assessments of breast morbidity and psychological distress were significantly related to the observed treatment-induced side effects after breast-conserving treatment”
- Danish Breast Cancer Cooperative Group (DBCG) and the DBCG Radiotherapy Committee, **Danish Cancer Society**
 - Johansen J^{et} al. Acta Oncol. 2002;41(4):369-80.
 - **Cosmetic outcome treatment--results from the Danish DBCG-82TM national randomized trial in breast cancer.**

Source: Whelan et al.; *The NEW ENGLAND JOURNAL of MEDICINE*
 2010 NEJM

Table 1. Late Toxic Effects of Radiation, Assessed According to the RTOG–EORTC Late Radiation Morbidity Scoring Scheme.*

Site and Grade	5 Yr		10 Yr	
	Standard Regimen (N=424)	Hypofractionated Regimen (N=449)	Standard Regimen (N=220)	Hypofractionated Regimen (N=235)
	<i>percent of patients</i>			
Skin				
0†	82.3	86.1	70.5	66.8
1	14.4	10.7	21.8	24.3
2	2.6	2.5	5.0	6.4
3	0.7	0.7	2.7	2.5
Subcutaneous tissue				
0‡	61.4	66.8	45.3	48.1
1	32.5	29.5	44.3	40.0
2	5.2	3.8	6.8	9.4
3	0.9	0.9	3.6	2.5

14% 1/3

* Effects of radiation therapy on skin and subcutaneous tissue were graded on a scale of 0 to 4 (with 0 indicating no toxic effects and grade 4 indicating skin ulceration or soft-tissue necrosis). RTOG–EORTC denotes the Radiation Therapy Oncology Group and the European Organization for Research and Treatment of Cancer.

† The absolute difference at 5 years was –3.8 percentage points (95% confidence interval [CI], –8.7 to 1.0), and at 10 years the absolute difference was 3.7 percentage points (95% CI, –4.9 to 12.1).

‡ The absolute difference at 5 years was –5.4 percentage points (–11.9 to 0.9), and at 10 years the absolute difference was –2.8 percentage points (–11.7 to 6.5).

Source

- “3- 13% of breast cancer survivors have telangiectasias”
- Johansen J¹, Overgaard J, Rose C, Engelholm SA, Gadeberg CC, Kjaer M, Kamby C, Juul-Christensen J, Blichert-Toft M, Overgaard M; Danish Breast Cancer Cooperative Group (DBCG) and the DBCG Radiotherapy Committee.
- **Cosmetic outcome and breast morbidity in breast-conserving treatment--results from the Danish DBCG-82TM national randomized trial in breast cancer.**
- Acta Oncol. 2002;41(4):369-80.
- ¹Danish Cancer Society, Department of Experimental Clinical Oncology, Aarhus

Some Numbers for France

France has 65 Million inhabitants (wikipedia.org)

Breast Cancer incidence in France in 2012

104.5/100.000 inhabitants (World Cancer Research Fund International)

= new breast cancer patients/year: 67.925 patients

10 year survival rate 83% (American Cancer Society, Cancer Facts & Figures 2016)

= new long term breast cancer survivors /year: 56.377 patients

Incidence of chronic radiation dermatitis

after 10 years = 34% (Whelan et al, NEJM, 2010)

= new chronic radiation dermatitis patients/year: 18.604 patients

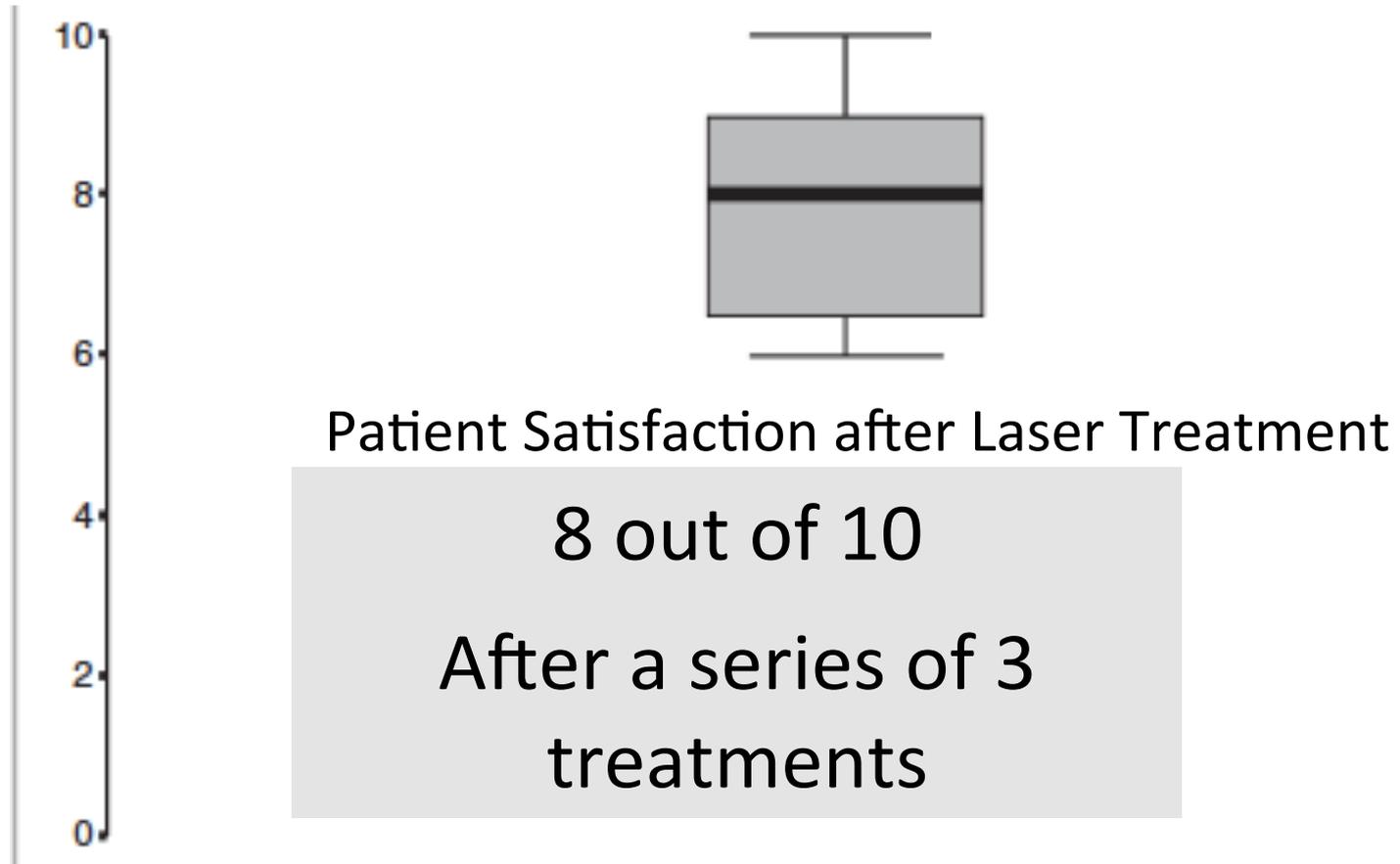
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Drs. Rossi, Nehal, & Lee; Sloan Kettering Cancer Center, New York, USA
J Clin Aesthet Dermatol. 2014 Dec; 7(12): 34–37.

Radiation-induced Breast Telangiectasias Treated with the Pulsed Dye Laser

Source



Nymann P, Hedelund L, Haedersdal M.

Intense pulsed light vs. long-pulsed dye laser treatment of telangiectasia after radiotherapy for breast cancer: a randomized splitlesion trial of two different treatments.

Br J Dermatol. 2009;160(6):1237-1241.

Some Numbers for France

- NEW chronic radiation dermatitis patients/year: 18.604 patients
- Number of chronic radiation dermatitis patients treated with laser medicine in France (2016) – (Groupe Laser de la SFD, 2016)
< 500 patients/year
- Each year approx. 18.000 new, untreated patients in France
- = 0,02% of population is affected and untreated per year in developed countries

Data within other countries might be different but are unfortunately not available

Numbers

- > 1 billion people have access to modern medicine

All of: USA, Europe, Canada, Australia, South Africa, Japan, Israel, New Zealand,

Parts of: China, India, Pakistan, Northern Africa, Mexico, Russia, South Korea, Iran, and many others)

- = 200.000 patients worldwide with access to modern medicine NEWLY affected with chronic radiation dermatitis each year and not treated