

Breast Cancer in the Elderly

Lorna Weir
Radiation Oncology, BCCA
November 27, 2004

Breast cancer in the elderly – the problem

- 30-40 % of breast cancers occur in women aged 70 or more
- Optimal treatment has been controversial because women of this age are often excluded from, or significantly under-represented in randomized trials

Breast cancer in the elderly – the problem

- For example in one US study, 49% of patients with breast cancer were ≥ 65 years of age, but only 9 % of patients in clinical trials were this age
- Clinicians tend not to offer trials to older women, and trial designs often exclude them

Demographics

Canadian females, in 1000's

	2006	2011	2016
70-74	549	593	724
75-79	484	487	528
80-84	388	397	401
85-89	238	281	290
90 +	163	206	250

Breast cancer risk for American women by age

- by age

50	one in 50
60	one in 24
70	one in 14
80	one in 10
85	one in 9

Why treat the elderly differently ?

- Breast cancer is "less aggressive" in the elderly
- They tolerate treatment less well
- They are more likely to die of other causes

Are these statements true ?

Is breast cancer less aggressive in the elderly ?

University of Chicago study on natural history of breast cancer

- 2136 patients treated with mastectomy from 1927 – 1987
- This era is prior to screening
- 75% did not receive systemic therapy
- Looked at 3 age groups :
 - ≤ 40
 - 41-70
 - > 70

University of Chicago study on natural history of breast cancer

	< 40	41-70	>70
T size < 2 cm	32	32	36
2-5	49	49	46
>5	19	19	18
+ nodes 0	40	42	44
1-3	32	28	28
≥ 4	28	27	17
X	<1	3	17

University of Chicago study on natural history of breast cancer

- Multivariate analysis showed that age was not a significant factor for distant disease free survival

Natural history of breast cancer

- Italian study, 2999 post menopausal women who underwent surgery between 1997 – 2002
- Looked at 3 age groups : 50-64, 65-74, ≥ 75
- No difference seen in the 3 age groups for:
 - proportion of patients with Grade 1,2,3
 - high Ki 65
 - ER neg
 - 1-3, 4-9 + nodes

natural history of breast cancer

- But women aged ≥ 75 had:
 - fewer p T 1 } probably reflects
 - p N 0 } less screening
 - more 10+ positive } nodes
 - fewer Her 2 +
 - LVI
 - more ER/PR +

Effect of under treatment

- Swiss study looking all women ≥ 80
- 407 patients, diagnosed 1989-99
- 4% detected by screening mammo
- Average tumour size 30 mm

Effect of under treatment

	%	5 yr BCSS	5yr OS
No treatment	12	46	11
Tam alone	32	51	18
Lumpectomy alone	7	63	27
Lumpectomy and adj Rx	14	90	67
Mastectomy alone	14	82	52
Mastectomy and adj Rx	19	62	44

Effect of under treatment

	%	* adjusted HR for death from breast ca
No treatment	12	1.0
Tam alone	32	0.4
Lumpectomy alone	7	0.4
Lumpectomy and adj Rx	14	0.1
Mastectomy alone	14	0.2
Mastectomy and adj Rx	19	0.2

* Adjusted for age

Effect of under treatment

- Authors acknowledge that there are treatment selection biases even with adjusted models
- Can only get this type of information from observational studies
- But this data strongly suggests that undertreatment worsens prognosis

Omission of Axillary dissection

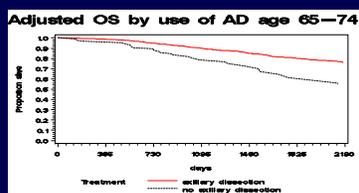
BCCA study
Truong et al, 2002

Objective:

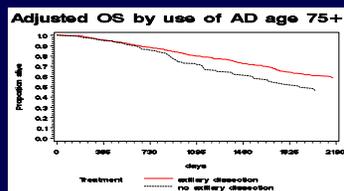
- To determine the effect of omission of AD on survival in women with T1/T2 breast cancer
- Cohort of 8,130 women aged 50-89 referred to the BCCA from 1989-1998 with T1-T2, M0 breast cancer

Results

Age	50-64	65-74	75-89
N	3749 (46%)	2820 (35%)	1561 (19%)
% AD Omission	4%	9%	22%



HR 2.01
p=.001



HR 1.45
p=.007

Ax dissection- Conclusions

- Axillary dissection is more frequently omitted with advanced age
- Omission of AD is associated with more favorable tumor characteristics (T size, grade, LV-, ER+)

Ax dissection - Conclusions

- Omission of AD is associated with:
 - lower overall survival for the entire cohort analyzed and for women aged >65
 - lower breast ca specific survival for women aged 65-74
- The lower survival cannot be attributed to tumor characteristics or adjuvant radiotherapy and systemic treatment

Omission of Axillary dissection

- Italian Study, 2003
- women age ≥ 70 with operable and clinically node negative breast cancer
- All patients had conservative breast surgery and received Tamoxifen ***

671 women \rightarrow 172 AD +
 \rightarrow 499 AD -

Axillary dissection

- AD - group were older and had larger tumours
- 71 % of them did not have breast RT

%	AD -	AD+
Axillary recurrence	5.4	0
Distant recurrence	7.4	8.7
Breast cancer deaths	9.2	8.1
Unrelated deaths	21.2	12.8

Axillary dissection

- Conclusions:
- No significant difference between AD - and AD + for endpoints of breast cancer mortality and distant recurrence
- This was felt to be attributable to the fact that all women were treated with Tamoxifen

Randomized trials of treatment for elderly women

- Italian trial
- 474 women ≥ 70 with operable breast ca
- 1987-92, median age 76
- Median FU 80 months
- Randomized to : Tam alone
Surgery then Tam
- ER known in only $\frac{1}{2}$ of pts in surgery arm

Randomized trials of treatment for elderly women

	Tam	Surgery then Tam	p
Local progr	45.2	11.2	< 0.0001
EFS	20	42	= 0.0001
Br Ca deaths	23.8	23	ns
Overall deaths	61.3	54.4	ns

Randomized trials of treatment for elderly women

- Authors conclude that treatment of elderly women should include minimal surgery and Tamoxifen
- Even though survival not improved, it is important to minimize local progression

Randomized trials of treatment for elderly women

- UK study of 455 women ≥ 70
- 1984-91, med FU 12.7 years
- Randomized to : Tam alone
surgery + Tam (40 mg)
- ER not known

Randomized trials of treatment for elderly women

	Tam (pts)	Surgery (pts) and Tam
Progression	141	57
local	91	24
axilla	21	12
distant	14	20
5 yr OS %	59.5	67.4 (p = ns)
10 yr OS %	28.8	37.7 (p = ns)
Breast ca death	68	43

Randomized trials of treatment for elderly women

- Authors conclude:
 - If fit for surgery they should have it
-
- There are also 4 small randomized studies looking at Tam alone vs surgery alone
 - All show similar results, with Tam alone there is much increased loco regional progression

Randomized trials of treatment for elderly women

- NEJM September 2004 - 2 studies:
- [Hughes et al](#)
- 636 patients age 70 or older with **clinical** stage T1N0 invasive cancer
- Following lumpectomy, randomized to :
 - breast RT + Tam
 - Tam alone
- 64% had no axillary node dissection (stratified)
- Med FU 5 yrs

Randomized trials of treatment for elderly women

	RT + Tam	Tam
Freedom from LR recurrence At 5 yrs	99 %	96 %
5 yr OS	86 %	87 %

Randomized trials of treatment for elderly women

- Axillary recurrence rate was 0% for patients receiving RT and Tam
- In patients with no axillary dissection receiving Tam alone, axillary recurrence rate was 1%
- They conclude axillary dissection not necessary in women ≥ 70 with clinical T1N0 breast cancer

Randomized trials of treatment for elderly women

- [Fyles et al](#)
- 759 women with pathological T1 or T2 invasive cancer aged ≥ 50
- all were node negative, but if aged 65 or older could be clinically staged node negative (17% of the patients in this category)
- randomized after lumpectomy to either breast RT and Tam, or Tam alone

Randomized trials of treatment for elderly women

- median FU was 5.6 years
- stratified for node dissection or not

	RT + Tam	Tam	
5 yr DFS	91%	84%	$p = 0.004$
5 yr OS	93%	93%	
5 year axillary relapse rate	0.5%	2.5%	$p = 0.049$
patients ≥ 65 with no axillary node dissection	0.6%	3.3%	$p = 0.07$

Overall Conclusions

- Breast cancer in elderly women will be an increasing health care issue over the next 2 decades due to demographics and increased use of screening mammography
- Breast cancer in the elderly is NOT a less aggressive disease compared to younger women
- Under treatment will result in poorer breast cancer survival

Overall Conclusions

- Tamoxifen alone is not adequate treatment for elderly women with operable breast cancer
- Minimal surgery plus adjuvant hormonal therapy should be considered for all women who are fit for it
- It would appear that elderly women with clinically early (T1-2, N0) breast cancer do not need a full node dissection
- Breast radiation treatment confers a modest benefit only

Overall Conclusions

- Elderly patients with inoperable breast cancer are treated on an individual basis
- Neoadjuvant treatment with chemotherapy or hormones followed by surgery is possible for many
- Elderly women should be encouraged to discuss treatment options with breast cancer specialists