Multidisciplinary Coordination for Curative Treatment

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Cancer in LMIC

Mexican Health System in context

Multidisciplinary coordination
CONTENTS

- Cancer in LMIC
- Mexican Health System in context
- Multidisciplinary coordination
1. Projected growth of new cases: 18.1 m (2018) → 21 m (2030)
2. 75% of future cancer burden will occur in low and middle income countries

CA J Clinicians, GLOBOCAN 2018
CANCER REGISTRIES IN THE WORLD

Northern America
- 95% by cancer registration
- 100% by vital registration

Europe
- 42% by cancer registration
- 18% by vital registration

Latin America and Caribbean
- 8% by cancer registration
- 25% by vital registration

Africa
- 2% by cancer registration
- 0% by vital registration

Asia
- 6% by cancer registration
- 3% by vital registration

Oceania
- 78% by cancer registration
- 74% by vital registration

THE CANCER ATLAS

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CANCER.ORG/CANCERATLAS

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BREAST CANCER MORTALITY:INCIDENCE RATIO

BRAY & PIÑEROS, SALUD PUB MEX, 2016.
CLINICAL STAGES AT DIAGNOSIS

- **Sweden**
- **Norway**
- **UK**
- **Canada**
- **Denmark**
- **Mexico**
- **Brazil**
- **Peru**
- **Egypt**
- **India**
- **Nigeria**

BC HEALTH SYSTEM INTERVALS

- Germany: Arndt, 2003. (n=380)
- Canada: Mayo, 2001. (n=29,000)
- France: Molinie, 2013. (n=1494)
- Colombia: Piñeros, 2011. (n=1105)
- Mexico: Unger-Saldaña, 2015. (n=886)
- Rwanda: Pace, 2015. (n=144)
- Nigeria: Pruitt, 2015. (n=31)
- Brazil: Rezende, 2008. (n=105)

1st medical consultation

Treatment start
BC 5-YEAR SURVIVAL RATES

Clinical stage

- Localized
- Locally advanced
- Metastasic

Less developed health systems:
- Saudi Arabia
- Costa Rica
- Philippines
- India
- Thailand

More developed health systems:
- Hong Kong
- Singapore
- Turkey

CONTENTS

❖ Cancer in LMIC
❖ Mexican Health System in context
❖ Multidisciplinary coordination
MEXICO

- 1,964,375 km²
- 131,000,000 inhabitants
- LE: 76.9 years

© Inequities
- 6th Richest man in the World (70 billion USD)
- 9 million: < 50 USD/month
- 53 million: < 150 USD/month
* Total health spending is 4 times lower than the OCDE countries average.
<table>
<thead>
<tr>
<th>TUMOR</th>
<th>YEAR OF INCLUSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uterine cervix</td>
<td>2003</td>
</tr>
<tr>
<td><strong>Breast</strong></td>
<td><strong>2007</strong></td>
</tr>
<tr>
<td>Children /adolescents</td>
<td>2008</td>
</tr>
<tr>
<td>Non-Hodgkin’s lymhoma</td>
<td>2011</td>
</tr>
<tr>
<td>Testicular</td>
<td>2011</td>
</tr>
<tr>
<td>BMT</td>
<td>2011</td>
</tr>
<tr>
<td>Prostate</td>
<td>2011</td>
</tr>
<tr>
<td>Colo-rectal</td>
<td>2015</td>
</tr>
<tr>
<td>Ovary</td>
<td>2016</td>
</tr>
</tbody>
</table>
**EFFECT OF MULTIDISCIPLINARY TUMOR BOARDS**

- Scotland
- n = 13,722
- Non-random interv.
- 1995: inclusion of multidisc. care
- Retrospective cohort
- Time series analysis

Kesson et al. BMJ 2012;344:bmj.e2718
GLOBAL TUMOR BOARDS

- Global Cancer Institute
- 500 participants
- 25 LMIC
- 37 USA experts

MULTIDISCIPLINARY TREATMENT IN MEXICO

SBR
HRs / HER-2

*** Seguro Popular - NCCN & St. Gallen adapted guidelines

CHT NEO / ADY
TARGET TX-MAB

SURGERY

RADIOThERAPY

HORMONE-TX
BC CLINICAL DATA IN MEXICO

Mexico:
Pop. 130 millions

Mexico City & Metropolitan Area:
Pop. 22 million

3 institutions (SP):
- INCAN
- FUCAM
- COE

BC dx 2008 -2013
n = 10,433
## CLINICAL RESULTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Num (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong> (Mean, DE)</td>
<td>52.5±12.2</td>
</tr>
<tr>
<td><strong>Presentation:</strong></td>
<td></td>
</tr>
<tr>
<td>- Screening</td>
<td>n=4651</td>
</tr>
<tr>
<td></td>
<td>883 (8.5)</td>
</tr>
<tr>
<td></td>
<td>3,768 (91.5)</td>
</tr>
<tr>
<td>- Symptoms</td>
<td></td>
</tr>
<tr>
<td><strong>Tumor size (mm)</strong></td>
<td>n=7,076</td>
</tr>
<tr>
<td>(Median, range)</td>
<td>35 (20-50)</td>
</tr>
<tr>
<td><strong>TYPE OF SURGERY</strong></td>
<td>n=8,230</td>
</tr>
<tr>
<td>Radical</td>
<td>5,481 (66.6)</td>
</tr>
<tr>
<td>Conservative</td>
<td>2,749 (33.4)</td>
</tr>
<tr>
<td><strong>SYSTEMIC TX</strong></td>
<td>N=6,878</td>
</tr>
<tr>
<td>Adjuvant</td>
<td>3,422 (49.8)</td>
</tr>
<tr>
<td>Neoadjuvant</td>
<td>2,941 (42.8)</td>
</tr>
<tr>
<td>Palliative</td>
<td>515 (7.5)</td>
</tr>
</tbody>
</table>
DISTRIBUTION BY CLINICAL STAGE
(3 institutions: INCAN, COE, FUCAM 2008 - 2013)

\[ n = 10,433 \]
**OVERALL SURVIVAL BY CLINICAL STAGE**

**Kaplan-Meier survival estimates**

<table>
<thead>
<tr>
<th>Clinical Stage</th>
<th>Overall 5-Year Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early D.</td>
<td>94.86</td>
</tr>
<tr>
<td>Loc. Adv.</td>
<td>78.31</td>
</tr>
<tr>
<td>Metast.</td>
<td>27.78</td>
</tr>
</tbody>
</table>

Number at risk:

- I: 881 (13) 329 (8)
- II: 2252 (110) 878 (33)
- III: 2055 (3/0) 59 (5/)
- IV: 727 (328) 89 (25)

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Breast Cancer

- NATIONAL PUBLIC HEALTH PROBLEM → LATE DX
  - An epidemic within an epidemic…
  - THE COSTS WILL BECOME UNSUSTAINABLE ($ 20,000 USD/ patient)

Proposal: collaborative effort

- PRIMARY & SECONDARY PREVENTION
- MULTIDISCIPLINARY TREATMENT
- PILOT IMPLEMENTATION PROJECTS
- LONG RUN → National Cancer Control Plan
Dr. Mohar:
• Elected member of the UICC Board of Directors 2018-2021

Thank you

www.incan.salud.gob.mx