Regional / National Perspectives in Geriatric Oncology

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National Cancer Centre
Singapore
Objectives

• Singapore data

• Regional data

• Geriatric oncology research in Asia

• Summary
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Demographics

- **Ethnic groups**
  - Chinese 76.8%, Malay 13.9%, Indian 7.9%, other 1.4%

- **Religions**
  - Buddhist 42.5%, Muslim 14.9%, Taoist 8.5%, Hindu 4%, Catholic 4.8%, other Christian 9.8%, other 0.7%, none 14.8%

- **Languages**
  - Mandarin (official) 35%, English (official), Malay (official) 14.1%, Hokkien 11.4%, Cantonese 5.7%, Teochew 4.9%, Tamil (official) 3.2%, other Chinese dialects 1.8%, other 0.9% (2000 census)

- **Literacy**
  - **definition**: age 15 and over can read and write
  - **total population**: 92.5%
Population Ageing in Singapore by 2030

Dependency Ratio: 1 in 4 > age 65
Cancer and the elderly

• 60% of all malignant tumors occur in the age group 65 years and older

• Incidence data shows that as one ages the potential for developing cancer increases

• Persons age 65 and older are eleven times more likely developing a cancer than persons under age 65
Cancer is a disease associated with aging.

60% of cancer occurs in people >64.
CANCER in Singapore

• Cancer is the No. 1 Killer in Singapore
• 1 in 4 Singaporeans dies of cancer
• 14 people die from cancer every day
• 28 people are diagnosed with cancer every day

Source:
<table>
<thead>
<tr>
<th>Females (Total 26,570)</th>
<th>Males (Total 25,087)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Breast</td>
<td>1. Colorectal</td>
</tr>
<tr>
<td>2. Colorectal</td>
<td>2. Lung</td>
</tr>
<tr>
<td>3. Lung</td>
<td>3. Prostate</td>
</tr>
<tr>
<td>4. Corpus uteri</td>
<td>4. Liver</td>
</tr>
<tr>
<td>5. Ovarian</td>
<td>5. Stomach</td>
</tr>
<tr>
<td>6. Skin</td>
<td>6. Skin</td>
</tr>
<tr>
<td>7. Stomach</td>
<td>7. Lymphoma</td>
</tr>
<tr>
<td>10. Thyroid</td>
<td>10. Urinary bladder</td>
</tr>
</tbody>
</table>

Geriatric Oncology

• There is gross under representation of this group in clinical trials and a lack of data regarding their cancer treatment outcomes

• Geriatric Oncology is rapidly coming to the foreground of oncology practice
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Top 10 Cancers in East Asia
Top 10 Cancers in SEA

Shin et al Jpn J Clin Oncol 2012
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Analysis of Prognostic Factors of Comprehensive Geriatric Assessment and Development of a Clinical Scoring System in Elderly Asian Patients With Cancer

Ravindran Kanesvaran, Huihua Li, Khai-Nee Koo, and Donald Poon
Study Objectives

• Analyse the CGA domains and identify prognostic factors in an Asian elderly cancer patient population

• To develop a nomogram based on the significant prognostic factors for easier application of CGA in the clinical setting
Patients and Methods

• Retrospective analysis of 249 consecutive cancers patients at NCC aged 70 years and above

• Univariate and Multivariate analysis done using CPH method

• Simple nomogram developed using regression co-efficients from multivariate model

• All cause mortality was captured from hospital database and national death registry
CGA Questionnaire

- Administered by a single research coordinator
- English, Malay and Mandarin
RESULTS

• Median age: 77 years (range: 70-94 years)

• Most patients had advanced disease (86.1%), poor ECOG PS (76.5%) and multiple co-morbidities (78.3%)
The scales of the nomogram reflected the coefficients from the Cox model rescaled to a user friendly (100 point) range.
RESULTS

• The Harrell’s C index estimated the probability of concordance between predicted and observed responses was 0.67.

• Internal calibration using 200 set of simulated data via bootstrapping showed that the predicted outcomes approximate actual outcomes well in terms overall survival.
DISCUSSION

• This is the first prognostic scoring system for elderly cancer patients to date developed based on the CGA
• Important descriptive information on elderly Asian cancer patients gleaned
• The nomogram was able to predict an individual patient’s 1, 2 and 3 year survival with reasonably good accuracy
Characteristics and treatment options of elderly Chinese patients with cancer as determined by Comprehensive Geriatric Assessment (CGA)

Ravindran Kanesvaran¹, Wei Wang¹, Yufei Yang, Zhengjun Wei, Ligun Jia, Fang Li, Shikai Wu, Chunmei Bai, Haiyan Xie, Hongliang Zhang, Guowang Yang, Richard Sloane, Pingping Li, Harvey Jay Cohen

¹ Joint first authors.
CGA in large urban Chinese Population

• **Materials and Methods:**
  • 803 patients from nine hospitals in the Beijing area were enrolled into this study
  • The inclusion criteria were patients who were 65 years or older and had a diagnosis of cancer at any stage
  • The CGA questionnaire used with these patients included the Chinese translation of the Gero-Oncology Health and Quality of Life Assessment tool
  • The questionnaire was provided to patients by a research nurse and administered in Mandarin
Results

- The mean age of the patients was 72 years old (range 65-94)
- The patients were mainly male (59.8%)
- About 45% of these patients also had concurrent TCM in addition to their other cancer treatments
- About 70% were able to manage their activities of daily living without assistance
Conclusion

• This is the largest prospective study of CGA assessments done on elderly cancer patients in Asia.

• This study demonstrates the CGA questionnaire is appropriate for Chinese cancer elderly patients and provides insight into understanding them better.

• TCM is used frequently in China, and its impact on quality of life needs further investigation.
CGA in elderly Korean oncology patients


Comprehensive geriatric assessment in Korean elderly cancer patients receiving chemotherapy.

Methods

• Enrolled 65 elderly cancer patients who were candidates of systemic chemotherapy
• Baseline CGA data including demographic information, comorbidity, functional status by means of ADL, and IADL, cognition, psychological state, nutritional status, and medication were collected and analyzed
• Quality of life (QoL) was assessed by the EORTC questionnaire QLQ-C30
• The median age was 71 years (range, 65-80)
• All patients had solid tumor, 74% received palliative chemotherapy, and 18% received adjuvant chemotherapy.
• Twenty-five percent of patients had Charlson's comorbidity index score of 2 or more, 23% were ADL dependent, and 14% were IADL dependent.
• Using Mini-Mental Status Exam (MMSE), it was found that 51% of patients had mild cognitive impairment (MMSE score 17-24), and 5% had cognitive impairment (≤16).
• Forty percent of patients had depression by Short form Geriatric Depression Scale (SGDS), 19% had malnutrition by Mini-Nutritional Assessment (MNA), and 23% had body mass index (BMI) less than 19.4 kg/m(2) (lowest 10%). Global health status/quality of life (QoL) was less than 50% in 39% of patients.
### Comparison between the Asian studies

<table>
<thead>
<tr>
<th>Country</th>
<th>Median age (years)</th>
<th>Setting</th>
<th>ECOG PS 0-1 (%)</th>
<th>ADL-independent (%)</th>
<th>IADL-Independent (%)</th>
<th>Co-morbidity (%)</th>
<th>Poly-pharmacy (%)</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>China (n=803)</td>
<td>72</td>
<td>Inpatient and outpatient</td>
<td>64.3</td>
<td>70.6</td>
<td>0</td>
<td>55.4 (&gt;3 co-morbids)</td>
<td>28.4 (&gt;=3 drugs)</td>
<td>Kanesvaran 2013</td>
</tr>
<tr>
<td>Singapore (n=249)</td>
<td>77</td>
<td>Outpatient</td>
<td>33.5</td>
<td>52.6</td>
<td>12</td>
<td>20.1 (Charlson &gt;2)</td>
<td>60.5 (&gt;4 drugs)</td>
<td>Kanesvaran 2011</td>
</tr>
<tr>
<td>Korea (n=65)</td>
<td>71</td>
<td>Outpatient</td>
<td>89.0</td>
<td>77</td>
<td>86</td>
<td>25 (Charlson&gt;=2)</td>
<td>43 (&gt;=3 drugs)</td>
<td>Kim 2011</td>
</tr>
</tbody>
</table>
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• Asian population is aging

• Cancer rates are rising in Asia

• CGA has a role in Asian elderly cancer patients

• Role for more studies in geriatric oncology
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Thank you!

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