Current Management in Malignant Diseases

Prijo SIDIPRATOMO*1

Historically

The first major effort aimed at cancer control in Indonesia was initiated by the Dutch Colonial Government in the early 1920s.

The first organization for cancer control which coordinated the activities for research and prevention was established in Bandung in 1933, called the ‘Nederlands Indische Kanker Institute,’ which was closed during the Japanese occupation between 1942 and 1945, after independence of the Republic of Indonesia, the first Indonesian Foundation for Cancer Control was established in 1962 in Jakarta.

This was followed by several Cancer Foundations in several cities such as Surabaya, Solo, Yogyakarta and Bandung.

The Coordinating Foundation of all these cancer societies was then established in Jakarta on April 17, 1977, named the Indonesian Cancer Society Research Institutions have also been established such as the National Cancer Research Institute in Jakarta in 1965, under the supervision of the Department of National Research, which was closed in 1966.

In 1974, a Research Center for Cancer and Radiology was established under the National Health Research Institute of the Ministry of Health.

In 1989, the Ministry of Health established a National Committee for Cancer Control which was meant to plan a comprehensive Cancer Control Program in terms of: prevention, early detection, early diagnostic, prompt treatment, follow-up, rehabilitation, cancer registration and cancer research.

In 1993, a new comprehensive Cancer Center Hospital was established in Jakarta which is also affiliated to the Medical Faculty University of Indonesia for the purpose of teaching and training for medical postgraduates and also for research on basic oncology.

At Present

It is currently estimated that there will be at least 170–190 new cancer cases annually for each 100,000 people and therefore cancer has risen to become sixth in rank among deaths after infectious diseases, cardiovascular diseases, traffic accidents, nutritional deficiency and congenital diseases.

However, most cancer patients (60–70%) seek medical treatment when it is already too late.

Presently the various modalities of therapy for cancer which are used in Indonesia are in the following proportions:

- radiotherapy 70%
- surgery 20–25%
- chemotherapy 5–10%

A multi-disciplinary approach, which is the key to successful cancer treatment, can only be found at the state university hospitals and has not been adopted in most municipal hospitals.

Cancer surgery is practiced in all state university hospitals.

Medical oncology divisions have so far started in only nine state university hospitals. Pathology and cytology facilities are well organized in most of the state university hospitals.

The Indonesian Association of Oncologists (Perhimpunan Onkologi Indonesia, or POI).

Founded in 1987, POI is a subset of the Indonesian Association of Medical Doctors (Ikatan Dokter Indonesia, or IDI).

There are only 932 oncologists in Indonesia: 275 pathologists, 93 surgical oncologists, 48 gynecologic oncologists, 204 urologists, 138 digestive surgeons, 50 ENT/head-neck surgeons, 70 medical oncologists, 41 radiation oncologists and 11 specialists in palliative medicine.

Non Communicable Diseases the Most Causal of Mortality Rate in Indonesia

Its concist of Stroke, hypertension, diabetic, cancer

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and chronic diseases of the lung.

Statistic from ministry of health reported that died due to non communicable diseases is increased from 41.7% in the year 1995, 49.9% in the year 2001 and 59.5% in the year 2007.

The most causal of death is stroke (15.4%), hypertension, Diabetic, cancer, obstructive diseases of the Lung.

**Radiation Treatment Facilities**

In 2008, there were 22 radiotherapy centres in Indonesia, 18 Linear Accelerators and 17 cobalt units.

There were 270 radiation oncology professionals, including 41 radiation oncologists, 38 medical physicists, 6 dosimetrists, 125 radiation therapy technologists, and 60 nurses. In addition, there were 17 residents and trainees participating in the Radiation Oncology training program.

**Summary**

Cancer become more prevalent in Indonesia, multimodality treatment is already available and in most cases came at late stage.

Screening program is needed.
Cancer genes

- There are two types of cancer genes:
  - Tumour suppressor genes
  - Oncogenes
- To date, we know of approximately 400 somatic “cancer genes” but there are almost certainly more to be found
- COSMIC is a catalogue of somatic mutations found in cancer genes in human tumours and is available at: http://www.sanger.ac.uk/genetics/CGP/cosmic/

Tumour suppressor gene

These genes normally function to PREVENT cell growth/division

Oncogene

Genes which normally function to PROMOTE cell growth/division in a controlled manner

Loss of Normal Growth Control

- Normal cell division
- Cell division becomes unregulated
- Cancer cell division

Historically

- WHO, statement that 30 percent of cancer cases are actually preventable and 30 percent are curable if they are detected early enough
- The first major effort aimed at cancer control in Indonesia was initiated by the Dutch Colonial Government in the early 1920s.
- The first organization for cancer control which coordinated the activities for research and prevention was established in Bandung in 1933, called the ‘Nederlands Indische Kanker Institute’, which was closed during the Japanese occupation between 1942 and 1945

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- early detection
- early diagnostic
- prompt treatment
- rehabilitation
- cancer registration
- cancer research

In 1991, a new comprehensive Cancer Center Hospital was established in Jakarta which is also affiliated to the Medical Faculty University of Indonesia for the purpose of teaching and training for medical postgraduates and also for research on basic oncology.
It is currently estimated that there will be at least 370–500 new cancer cases annually for each 100,000 people and therefore cancer has risen to become sixth in rank among death after infectious diseases, cardiovascular diseases, traffic accidents, nutritional deficiency and congenital diseases.
However, most cancer patients (60–70%) seek medical treatment when it is already too late.
At present the various modalities of therapy for cancer which are used in Indonesia are in the following proportions:

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- Its consist of Stroke, hypertension, diabetic, cancer and chronic diseases of the lung.
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Radiation Treatment Facilities
- In 2008, there were 22 radiotherapy centres in Indonesia, 18 Linear Accelerators and 17 cobalt units.
- There were 270 radiation oncology professionals, including 42 radiation oncologists, 38 medical physicists, 6 dosimetrists, 225 radiation therapy technologists, and 60 nurses.
- In addition, there were 17 residents and trainees participating in the Radiation Oncology training program

Radiation Therapy

Distribution of radiotherapy centres in Indonesia. Numbers represent the number of radiotherapy centres in a city

Growth of human resources, 2004-2008

Human Resources in Radiation Oncology

<table>
<thead>
<tr>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiation Oncologist</td>
<td>39</td>
</tr>
<tr>
<td>RTT</td>
<td>87</td>
</tr>
<tr>
<td>Nurse</td>
<td>52</td>
</tr>
<tr>
<td>Medical Physicist</td>
<td>25</td>
</tr>
<tr>
<td>Dosimetrist</td>
<td>2</td>
</tr>
<tr>
<td>Resident &amp; Trainee</td>
<td>4</td>
</tr>
</tbody>
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CHEMOTHERAPY

- SYSTEMIC
- INTRA ARTERIAL

CME in Surabaya on Intraarterial Chemotherapy and Palliative

UP DATE IMAGING & INTERVENTION IN BREAST, HEAD & NECK MALIGNANCY
Conference and Workshop

SUPERSelective TACE

No recurrence during 1 year follow-up

COLONIC STENTING

Summary

- Cancer become more prevalent in Indonesia
- Multimodality treatment is already available
- Most cases came at late stage
- Screening program is needed.