Managing Cancer of the Cervix in a setting with significant resource constraints:

A KZN Experience

Dr K Govender
Gynae-oncology
Kwa-Zulu Natal
Age Specific Cancer Incidence Among Women 15-44 Years of Age (Estimations for 2012)

- Cervix uteri: 26.6 per 100,000
- Breast: 21.7 per 100,000
- Kaposi sarcoma: 5.4 per 100,000
- Non-Hodgkin lymphoma: 4.2 per 100,000
- Ovary: 3.5 per 100,000
- Colorectum: 2.1 per 100,000
- Melanoma of skin: 1.7 per 100,000
- Leukaemia: 1.5 per 100,000
- Thyroid: 1.5 per 100,000
- Liver: 1.1 per 100,000
- Corpus uteri: 1.0 per 100,000
- Lip, oral cavity: 0.8 per 100,000
- Stomach: 0.7 per 100,000
- Hodgkin lymphoma: 0.7 per 100,000
- Brain, nervous system: 0.6 per 100,000
- Lung: 0.5 per 100,000
- Other pharynx: 0.4 per 100,000
- Pancreas: 0.4 per 100,000
- Oesophagus: 0.4 per 100,000
- Multiple myeloma: 0.4 per 100,000
- Bladder: 0.3 per 100,000
- Kidney: 0.3 per 100,000
- Larynx: 0.3 per 100,000
- Nasopharynx: 0.2 per 100,000
- Gallbladder: 0.1 per 100,000

Data sources:
- For specific estimation methods see refer to http://globocan.iarc.fr/ToolsAndDataSources/ and methods menu.
Cervical cancer mortality compared to other cancers in women of all ages in South Africa (estimations for 2012)
The ten most frequent oncogenic types among women with invasive cervical cancer in South Africa


High-grade lesions: CIN-2, CIN-3, CIS or HSIL; Low-grade lesions: LSIL or CIN-1; The samples for HPV testing come from cervical specimens (fresh / fixed biopsies or exfoliated cells).

Data sources:
Anatomy of the cervix

Figure 3. Cervical Squamocolumnar Junction (SCJ) and Transformation Zone

Mid-later Reproductive Stage (30s age-range)

New SCJ
Original SCJ
Transformation Zone
Progression of cervical disease after HPV infection

Time

Months

Years

Normal epithelium

HPV infection koilocytosis

CIN1

Low-grade squamous intraepithelial lesion (ASCUS/LSIL)

CIN2

High-grade squamous intraepithelial lesion (HSIL)

CIN3

Invasive carcinoma

Regression

* Probability increases with viral DNA integration. CIN: cervical intraepithelial neoplasia; ASCUS: atypical squamous cells of undetermined significance

KZN – new cases of cervical cancer

2 CENTRES
1. IALCH / ADDINGTON HOSPITAL
   • +/- 500 PER YEAR

2. GREYS HOSPITAL
   • +/- 300 PER YEAR

• 800 NEW CASES

• EARLY DISEASE = 7%
SHORTFALLS

• Education and Primary Prevention
  • have not seen fruits of labour

• Screening program
  • No difference in mortality
  • No adequate database
  • No structured coverage program

• Diagnosis
  • Late presentation and diagnosis

• Staging
  • CT/MRI/PET scan now included in imaging for nodal assessment $\rightarrow$ not affordable
  • Primary assessment in theatre with cystoscopy and sigmoidoscopy is gold standard for clinical staging $\rightarrow$ not affordable

• Treatment
  • High volumes
  • Limited radiotherapy
  • Limited specialists
An efficient cervical cancer service

- Population = 5.23 million
- Complete HPV Vaccine program
- Screening Coverage: 98%
- Screening quality: 90%
- New cases = 4.4 – 4.8 per year
- Early cervical cancer = 63%
- Radiation machines = 38
  In 10 Radiation Centres
2017

NATIONAL CANCER CRISIS

Cancer treatment in the public sector ‘in crisis’?

Mall & Guardian, 27 June

HOSPERSA SLAMS KZN HEALTH FOR CANCER PATIENT DEATHS

24 March 2017

The Health and Other Service Personnel Trade Union of South Africa (Hospersa) is slamming the KwaZulu-Natal (KZN) Department of Health for failure to resolve the ongoing cancer treatment crisis in the province. The Union calls upon the Minister of Health, Dr Aaron Motsoaledi to urgently address what it calls a crisis in the KZN
Shortage of cancer specialists
Number of radiation oncologists working in the public health sector this year, by province

Cancer patient backlogs in KZN
Official figures during breakdown of cancer treatment machines in 2016

- The KwaZulu-Natal health department provided this information to the South African Human Rights Commission as part of the commission’s investigation. Dentist Alphonse NkDene says, who instigated the commission’s inquiry, says he doubts the information’s accuracy.

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For all questions related to the images, please contact the South African Society for Radiation Oncology (SASRO).
Resources as at 2017: IALCH/Addington

- **Human:**
  - No full time oncologists
  - 2 part time oncologists (private practice) → spend 2 hours in CGC
  - 8 radiotherapists (5 IALCH and 3 Addington)
  - 2 physicists
  - **GYNAE-ONCOLOGY**
    - 1 gynae-oncologist
    - 1 fellow (gynae-oncology)
    - 1 registrar (2 monthly rotations)
    - 0 medical officers
    - 0 part time specialists/medical officers

- **Non-Human**
  - 4 Radiation machines
    - 2 x ADH (1 not functioning, 1 not used due to administration issue)
    - 2 x IALCH (1 functioning and 1 partially functioning)
PREVIOUS PRACTICE AT CGC (BEFORE 2011)

ALL NEW PATIENTS WITH GYNAE CANCER
NO. PER WEEK UNKNOWN
(WAITING TIME FOR FIRST VISIT +/-3 MONTHS)

ALL NEW PATIENTS
20 NEW PATIENTS (10 NEW CA CERVIX)

RADIATION WAITING TIME = 2 MONTHS + 3 MONTHS
INPATIENT CHEMO WAITING TIME = 2 MONTHS + 2 WEEKS
SURGERY WAITING TIME = 2 MONTHS + 1 MONTH
CGC: AFTER CHALLENGES SET IN (2011 – 2014)

ALL NEW PATIENTS WITH GYNAE CANCER
NO. PER WEEK UNKNOWN
(WAITING TIME FOR FIRST VISIT +/- 4 MONTHS)

ALL NEW PATIENTS
20 NEW PATIENTS (10 CA CERVIX)

RADIATION WAITING TIME = 4 MONTHS + 3 MONTHS
INPATIENT CHEMO WAITING TIME = 4 MONTHS + 1 MONTH
SURGERY WAITING TIME = 4 MONTHS + 2 MONTH
CGC: ATTEMPT TO ALLEVIATE WAITING TIME (2015 -2016)

- Only CA Cervix Stage 2B upwards \(\rightarrow\) Waiting Time = 2 Months
- Patients seen and managed by Gynae Onco Team first \(\rightarrow\) WT = 2 Weeks + Intervention + 2 Weeks
- Molar pregnancies completely not seen \(\rightarrow\) WT <1 Week

20 new patients (10 CA Cervix)

- Radiation Waiting Time = 2 Months + 9 Months
- Inpatient Chemo Waiting Time = 2 Weeks +/- Intervention + 2 Weeks
- Surgery Waiting Time = 2 Weeks + 2 Weeks
CGC: 2017

ONLY CA CERVIX STAGE 2B UPWARDS \(\rightarrow\) WT = 10 MONTHS

PATIENTS SEEN AND MANAGED BY GYNAE ONCO TEAM FIRST \(\rightarrow\) WT = 3 MONTHS + INTERVENTION + 4 MONTHS

MOLAR PREGNANCIES SEEN \(\rightarrow\) WT < 1 WEEK

5 NEW PATIENTS (5 CA CERVIX)

RADIATION WAITING TIME = 10 MONTHS + 11 MONTHS

INPATIENT CHEMO WAITING TIME = 2 WEEKS +/- INTERVENTION + 4 MONTHS

SURGERY WAITING TIME = URGENT: 3 WEEKS + 3 WEEKS (ASSESSED IN WARD)

NON-URGENT: 3 MONTHS + 1 MONTH
SOUTH AFRICAN HUMAN RIGHTS COMMISSION REPORT

Complaint File Ref. No.: KZ/1516/0451
Well, back to the old drawing board.

THINK OUTSIDE THE BOX

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Measures attempted

1. Assessing and improving prevention strategies
   • Coverage
   • Quality of screening
   • Efficacy of screening
   • Population awareness

2. Chemotherapy measures
   Holding chemotherapy
   NACT
   Post treatment chemotherapy

3. Surgical measures
   • Radical Surgery
Prevention/Screening

• Audit of Pap smears → only 40-50% satisfactory for analysis

• Introduced LBC in 2017
  • All known sites using it exclusively
  • Quality: 75% adequate
    22% missing endocervical component
    3% not satisfactory for analysis
  97% satisfactory for analysis
Public Awareness

21 April 2018

Pap drive at IALCH

2074 Pap smears done
Building on this:

• Future Pap Drives:
  • Police force
  • Teachers Union

• Creating funding for “YES I HAD MY PAP” APP

• Ensuring all schools in KZN have vaccine available
Abnormal Smears

- LLETZ without Colposcopy → CONTROVERSIAL

- 15 LLETZ Machines purchased → distributed to key district level hospitals

- ABN SMEAR → WAIT +/- 6-12 MONTHS → COLPOSCOPY
ABN SMEAR → WAIT +/- 2 WEEKS → LLETZ ONLY

NOT SUITABLE FOR LLETZ ONLY

WAIT 1-4 WEEKS

WAIT 1-4 WEEKS

NOT SUITABLE FOR LLETZ ONLY

COLPOSCOPY AT REGIONAL HOSPITAL
RADICAL SURGERY - Type 3b radical
RADICAL SURGERY - Type 3b radical hysterectomies

1. BULKY CA CERVIX (1B3 LESIONS)
   - Positive nodes
   - Positive parametria
   - Still required RT

2. EARLY STAGE 2 B
   - Some irresectable
   - High incidence of nodal involvement
CHEMOTHERAPY

1. BULKY CA CERVIX (1B3 LESIONS) → NACT followed by Type 3b radical hysterectomies
   • Positive nodes
   • Positive parametria
   • Still required RT

2. HOLDING CHEMO → whilst waiting for radiotherapy
   • Stopped this practice
     • Very poor response
     • Some patients became resistant to radiotherapy

3. Post surgical chemo to decrease recurrence
   • Waiting for results from the OUTBACK trial
NON CA CERVIX MEASURES TO DECREASE WAITING TIME:

- URGENT OPERABLE: ASSESSED IN WARD
- URGENT CHEMO: ASSESSED AND CHEMO STARTED IN GYNAE WARD
- URGENT IMAGING PRE-SURGERY OR CHEMO: ADMITTED TO WARD
- ALL GTN: ADMITTED TO WARD FOR CHEMO
- PATIENTS FOR STAT RT: ADMITTED TO WARD
- GERMINAL CELL OVARIAN TUMOURS: CHEMO IN WARD
- URGENT SURGERY AND FREE SLATE IN PERIPHERY → GYNAE ONCO TEAM GOES OUT (NOT FREQUENT DUE TO TIME CONSTRAINTS)
- MASSIVE DEBILITATING WARTS (RT NOT AN OPTION) → SURGICAL DEBULKING OFFERED
RESULTANT EFFECT

• WAITING TIME

• MORBIDITY AND MORTALITY TO PATIENTS

• MENTAL AND PHYSICAL FATIGUE OF TEAM MEMBERS

• SUB-OPTIMAL SUBSPECIALIST TRAINING (SERVICE DELIVERY SUPERCEDES)

• INFRINGEMENT ON BASIC HUMAN RIGHTS, PATIENT CARE AND PATIENT DIGNITY
Conclusion

• Not only a problem of low income countries

• Cannot fix this problem by being reactive and plugging holes

• We know resources are the issue but solution is not just acquisition of radiation machines

• We need to understand:
  • the burden of disease
  • its geographical distribution
  • the complete human and non-human resources required to treat patients

• Major effort needs to go into decreasing burden of disease in the form of prevention
I’m Donald J. Trump

The J stands for Genius