Globe salvage at KNH

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Outline

- Introduction and classification of retinoblastoma
- Globe salvage modalities
- Locally available options
- Outcome of globe salvage
- Experience at KNH
Introduction

- Retinoblastoma is the commonest intraocular tumour
- High survival rate if treated early
- Estimated at 79 new cases per year in Kenya
- 30-40% bilateral
- Usually only better eye salvageable at presentation
- Use International Intraocular Rb Classification (IIRC)
- Group A- D (IIRC) salvageable
INTERNATIONAL INTRAOCULAR RB CLASSIFICATION (IIRIC)

A: small tumors ($\leq 3\text{mm}$) and 3mm away from fovea and 1.5mm from disc
B: All discrete tumors ($>3\text{mm}$) confined to retina but not in A
C: Discrete tumor with minimal sub-retinal or vitreous seeding ($\leq 3\text{mm}$ from tumor)
D: Diffuse disease with significant vitreous or subretinal seeding
E: Presence of $\geq 1$ poor prognostic feature
   • Tumor touching lens
   • Anterior segment involvement
   • Glaucoma (neovascular)
   • Opaque media (hemorrhage, cataract)
   • Aseptic orbital cellulitis
   • Phthisis bulbi
IIRC Group A
IIRC Group B
IIRC Group C
IIRC Group D
Options for globe Salvage

Choice depends on classification of eye

Locally available options for globe salvage:
- Laser photocoagulation
- Cryotherapy
- Systemic chemotherapy /chemoreduction
- Intravitreal chemotherapy

Internationally:
- Intra-arterial chemotherapy
- Vitrectomy with IVC and endolaser,
- EBRT, Brachytherapy
Laser photocoagulation

- 532/810 mm
- Ring around the tumour and directly on the tumour
- Coagulates the vessels
- Ischaemic tumour damage
- Initial treatment for Group A
- After chemotherapy in group B, C, D
- 3 weekly sessions until control
Cryotherapy

- Triple freeze thaw

- Vascular endothelial damage, secondary thrombosis and tumour infarction

- Small Peripheral tumours as initial treatment or after chemoreduction

- 3 weekly sessions until control
Systemic chemotherapy

- Chemoreduction in Group B, C and D prior to focal therapy
- High dose VEC (vincristine, Etoposide Carboplatin)
- 3 weekly; Initial 2-6 cycles depending on stage and response
- Recurrences and failed focal therapy
Predictors of outcome after chemotherapy (2006, ICRB)

- **Groups A–C**
  The globe could be salvaged in ≥90% of eyes

- **Group D**
  The globe could be salvaged in 47% of eyes
Intravitreal chemotherapy

- For persistent/resistant vitreous seeds after systemic chemotherapy
- Melphalan/ Topotecan
- Triple freeze thaw cryotherapy at injection site
- 3 weekly injection (total 4-6)
- Since 2016 at KNH
Outcome of globe salvage

Dependent on stage and available options
RETINOBLASTOMA CODED RECORDS

ICD-9
192

BILATERAL RETINOBLASTOMA
67 (34.90%)

ELIGIBLE FOR STUDY
35 (18.23%)

EXCLUDED FROM STUDY
32 (16.67%) - both eyes enucleated

1 - globe preservation done in Germany.
1 - globe preservation done in India.
1 - enucleated in KNH,

UNILATERAL RETINOBLASTOMA
125 (65.10%)

EXCLUDED FROM STUDY
125 (65.10%)
# Outcome at KNH

<table>
<thead>
<tr>
<th>Outcome</th>
<th>number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control achieved</td>
<td>13</td>
<td>37.1</td>
</tr>
<tr>
<td>Treatment ongoing</td>
<td>4</td>
<td>11.4</td>
</tr>
<tr>
<td>Lost to follow up</td>
<td>9</td>
<td>25.7</td>
</tr>
<tr>
<td>Enucleated (failure)</td>
<td>6</td>
<td>17.1</td>
</tr>
<tr>
<td>Metastasis/death</td>
<td>3</td>
<td>8.6</td>
</tr>
</tbody>
</table>
A.W: D.O.B 18/10/2012

1st EUA RE: 18/3/2013

30.5.16
T.J D.O.B: 7/4/2014

1st EUA LE: 17/11/2014

13/6/16
S.W: D.O.B; 06/02/2013

1st EUA: January 2014

March 2014
S.T 2 years

Early 2018

September 2018
Challenges

- Late presentation
- Poor Follow up
- Financial challenges
- Limited options: no brachytherapy, EBRT, IAC
- Limited/ no access to some drugs: Melphalan, Topotecan, Cyclosporine A
- Equipment breakdown
- Intermittent supply of chemotherapy