

Retinoblastoma: Vision for the Future

How to optimize care
for the "frequent flyer"
paediatric client with
Retinoblastoma (RB)



Donna Yates, RN, MN, CPN(C)

Overview

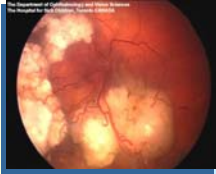


- The disease
- The treatment
- The children

Normal Retina



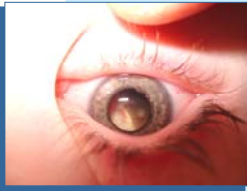
What is Retinoblastoma?



- Most common childhood cancer
- Incidence 1:20,000
- Unilateral 60: bilateral 40
- Survival >96%

(Gallie, April, 2007; Rodriguez-Galindo et al, 2003)

Symptoms



- 80% discovery by family
- Leukocoria(white light reflex) -50%
- Strabismus -25%
- Inflammatory signs-10%

(Wallach et al, 2006)

Genetic History



- RB1 gene suppresses cell division
- On chromosome 13
- Only one copy needed for normal function
- Hereditary or Non-hereditary

(Gallie, 2007)

Non-inherited type RB



- ~50% of RB cases
- All unilateral
- Enucleation often cure
- No increase risk to offspring

(Chan et al, 2005; (Rodríguez-Galindo, 2003)

Inherited type RB

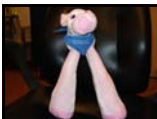


- ~50% of total RB cases
- All bilateral + 15% of unilateral
- 36% risk of tumours later in life
- 50% chance each offspring will inherit gene

(Kleinerman et al, 2005)

(Gallie, Feb, 2007)

Focal Therapies



- Laser therapy
- Cryotherapy
- Brachytherapy (radioactive plaque)
- Localized chemotherapy



Laser therapy

- 532, 810, 1064 wavelengths
- Surrounds tumour
- Directly on surface

(Hison, 2007)

RETINA

Pre Laser
&
Post Laser

Figure 10.10.10.1 Pre Laser
The Department of Ophthalmology and Vision Sciences
The Hospital for Sick Children, Toronto, CANADA

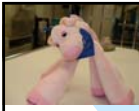
Figure 10.10.10.2 Post Laser
The Department of Ophthalmology and Vision Sciences
The Hospital for Sick Children, Toronto, CANADA

Cryotherapy

The Department of Ophthalmology and Vision Sciences
The Hospital for Sick Children, Toronto, CANADA

- Small tumours
- Pre-chemo
- Freeze-thaw

(Valenzuela, 2007)

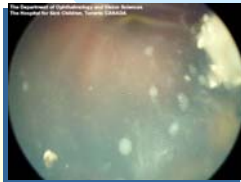


Brachytherapy

- Radioactive plaques
- Gold backing
- Lead shield over eye
- Private room
- 10 cm area of concern

(Gallie, 2007; Rapp, 2006)

Local Chemotherapy



- Intravitreal concentration
- Usually carboplatin
- In poor prognosis disease

(Valenzuela, 2006)

Chemotherapy

- Reduces tumour volume
- Chemo/Focal therapy combo
- Larger tumours
- Vitreal Seeding



(Chan et al., 2005)

Radiation Therapy



- Failed chemo/focal therapy combo
- Risk of cataracts
- Risk of orbital deformities
- Risk secondary tumours >50%

(Chan et al. 2005)

Enucleation



Orbital Implant & Conformer



Challenges



- Suddenness of diagnosis
- Multiple anaesthetics
- Anxiety
- Distances

(Brady, 2003; Wilson et al., 2006)

Choices



- Parents' presence
- Favourite toys/blankets
- Sitting up/lie down
- Cues from child



"Care Plan Book"



- Take cues from patient
- Shares information with team
- Care is "family-centred"

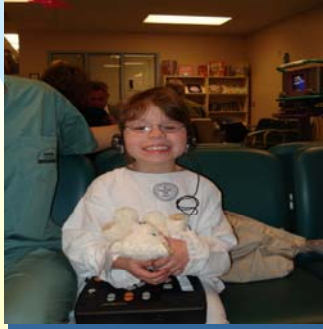


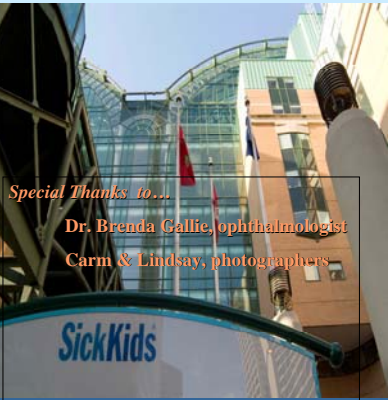
Team Communication

- Interprofessional
- Develop plan of care
- Evaluate results



"Frequent Fliers"





Special Thanks to...
Dr. Brenda Gallie, ophthalmologist
Carm & Lindsay, photographers
