Nasopharyngeal Carcinoma in Pediatric Patients

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Presentation

• 14 y M with no PMHx
• Diagnosed with nasopharyngeal carcinoma in 2013
• PET/CT showed large posterior pharyngeal mass with bilateral lymphadenopathy
• Underwent 3 rounds of cisplatin, 5-FU and XRT
• Repeat PET/CT showed minimal residual disease in posterior pharynx
• Recurrence in 2015 with metastasis to lumbar spine, lung and liver
• Underwent 2 cycles of gemcitabine and cisplatin followed by cytotoxic T cell therapy at MSKCC
• s/p docetaxel and nivolumab therapy 7/16
Presentation

- Patient admitted on 5/23 for respiratory distress
This Admission

- Presented on 8/3 to Pediatric Oncology clinic with respiratory distress
- Noted to have large bilateral pleural effusion on CT chest
This Admission

- Admitted to PICU
- 8/3: OR for bilateral thoracentesis – complicated by post operative pneumothorax
- 8/13: Pigtail catheters discontinued
- 8/16: Respiratory distress, recurrence of pleural effusion
- 8/17: Left side thoracostomy – 1000cc of serous fluid evacuated
This Admission

- 8/18: Oxygen requirement decreased, respiratory status improved
- 8/25: Family discussion regarding prognosis, patient made DNR/DNI
- 9/1: Patient again with worsening respiratory status
- 9/6: Pleuroperitoneal shunt placement
- 9/14: Pigtail Removed
Questions?
Nasopharyngeal Carcinoma

- Pathophysiology of Nasopharyngeal Carcinoma
- Management of Malignant Pleural Effusion
- Pediatric Palliative Care
Nasopharyngeal Carcinoma

- Representative of 0.25% of all malignancies in U.S.
- Strong association with Epstein Barr Virus
- Three histological variants
  - Keratinizing
  - Nonkeratinizing
  - Undifferentiated
Nasopharyngeal Carcinoma

• Risk factors
  – Heavy Alcohol consumption
  – Epstein Barr Virus infection
  – Chinese ancestry
  – Family history
Nasopharyngeal Carcinoma

• Clinical Presentation
  – Most common asymptomatic neck mass
  – Upper respiratory symptoms
  – Nasal obstruction
  – Epistaxis
  – Cranial nerve deficits
Nasopharyngeal Carcinoma

• **Diagnosis**
  – Laryngoscopy
  – PET/CT
  – FNA

• **Prognosis**
  – Tumor size
  – Presence of positive cervical lymph nodes

• **Metastasize via lymphatics**
  – Commons sites are lung, liver and bone
Nasopharyngeal Carcinoma

• Treatment
  – Chemotherapy: 5-FU, Cisplatin
  – Radiation Therapy

• Surgery reserved for resection of residual disease
Management of Malignant Effusions

• Pleural Space
  – Movement of fluid dictated by starling forces
  – Small shifts in perfusion and absorption lead to accumulation of fluid
    • Increased hydrostatic pressure
    • Increased negative intrapleural pressure
    • Increased capillary permeability
    • Decreased plasma oncotic pressure
    • Interruption of lymphatics
Management of Malignant Effusions

• Transudate v. exudate
  – Light’s criteria

• Treatment goals should focus on relieving symptoms and obtaining diagnosis
Malignant Pleural Effusions

• Defined as an effusion with positive cytopathology
• Repeated thoracentesis with high positive and negative PV
  – After 3 thoracentesis; 70-80% will obtain a diagnosis of MPE
• Median survival after diagnosis of MPE is 90 days
Malignant Pleural Effusions

• Treatment of MPE
  – Repeat thoracentesis
  – Chest tube with bedside pleurodesis
  – Chronic indwelling catheter
  – VATS pleural biopsy with chemical pleurodesis
  – Open pleurectomy and pleurodesis
Malignant Pleural Effusions

• Denver Shunt
  – Invented for management of chronic ascites
  – Can be used for management of recurrent pleural effusions
Management of Recurrent Malignant Pleural Effusions

The Complementary Role of Talc Pleurodesis and Pleuropertitoneal Shunting

Mario Petrou, B.Sc., M.B., B.S., David Kaplan, F.R.C.S., and Peter Goldstraw, F.R.C.S.
Malignant Pleural Effusions

- 180 patients with MPE
  - 117 patients treated successfully with conventional pleurodesis
  - 63 patients with pleuroperitoneal shunting

- Results
  - Early death lower for shunt
  - Decreased LOS
  - Increased median survival
Pediatric Palliative Care

• Approximately 450,000 pediatric patients living with chronic, life threatening illnesses

• Approximately 16,000 will die annually of chronic complex conditions
  – About 5000 of those deaths will receive palliative and end of life care
Palliative Care as a Standard of Care in Pediatric Oncology

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The study team conducted a systematic review of pediatric and adolescent palliative cancer care literature from 1995 to 2015 using four databases to inform development of a palliative care psychosocial standard. A total of 209 papers were reviewed with inclusion of 73 papers for final synthesis. Revealed topics of urgent consideration include the following: symptom assessment and intervention, direct patient report, effective communication, and shared decision-making. Standardization of palliative care assessments and interventions in pediatric oncology has the potential to foster improved quality of care across the cancer trajectory for children and adolescents with cancer and their family members. Pediatr Blood Cancer 2015;62:S829–S833. © 2015 Wiley Periodicals, Inc.

Key words: communication; family-centered care; palliative care; psychosocial support; quality of life
Pediatric Palliative Care

• Standard of Care
  – Introduction of palliative care throughout disease process despite disease status
  – Focused developmentally appropriate end of life issues
  – Offering services for families even after the child’s death