



## PALLIATIVE CARE CASE OF THE MONTH

### “Acute Anxiety in Seriously Ill Children and Adolescents”

by

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**Case:** E. is a 6-year-old girl with high-risk neuroblastoma treated with chemotherapy and a recent mediastinal mass resection. Supportive care was asked by oncology to manage multiple symptoms, which had previously included refractory chemotherapy-induced nausea and vomiting. Following surgical resection of her mediastinal mass, E.’s pain was well controlled via co-management by the acute pain service and supportive care. However, her post-operative course was complicated by poor oral intake for which a nasogastric (NG) tube was placed. Subsequently, E. experienced exacerbation of her nausea, particularly shortly after NG medication administration, as well as increased tearfulness and behavioral outbursts. Her father asked the supportive care team about whether anxiety could be playing a role in her current symptoms.

**Background:** Anxiety is a state of worry or unease often related to a feared upcoming or uncertain event. In seriously and/or chronically ill children, anxiety may be under-recognized<sup>1</sup> and is often a significant problem, particularly in the initial period after diagnosis of a serious illness<sup>2</sup>. Anxiety can adversely affect quality of life for both children and their families. Here, we will discuss common causes of anxiety in seriously ill children as well as management strategies.

**Common Causes:** In patients of all ages, anxiety is often triggered directly by physical symptoms, such as dyspnea, nausea, and pain (both acute and chronic), adverse effects of drugs routinely used in medical treatments (e.g. corticosteroids), as well as invasive and/or intensive procedures (e.g. central and peripheral intravenous access, chemotherapy, and surgery). Anxiety can also be related to the fear of being alone, the loss of identity and established relationships prior to the serious illness, and uncertainties in disease trajectory and prognosis<sup>3</sup>. It is important to take a developmental approach to assessing a child’s response to medical illness by identifying common causes of anxiety specific to particular age groups. Younger children often have anxiety related to separation from family during treatments and procedures, the presence of strangers or new places as part of their medical care, and loud noises or foreign objects often present during medical treatments (e.g. MRI machines)<sup>4</sup>. Older school-age children and adolescents can experience additional anxieties appropriate to their stages of development, especially as they become aware of their mortality potential. Adolescents often experience anxiety regarding limitations in their ability to identify with non-ill peers and previously enjoyed extracurricular activities, as well as changes in physical appearance or abilities<sup>5</sup>.

Anxiety specific to the end of life is often experienced by older children as they contemplate the impact of their death on loved ones and uncertainties about the dying process. Children and adolescents often worry about separation from their parents after death and the thought of leaving them alone<sup>6</sup>.

**Management Strategies:** The importance of open communication with children and their families in the management of anxiety cannot be overemphasized. Providers should address the child’s and their family’s concerns honestly, assuring them that they will not be abandoned<sup>3</sup>. An important initial step in the acute management of anxiety in medically ill children is to identify and (if possible) minimize the stressor. Interdisciplinary palliative and supportive care teams, which include child life specialists, social workers, and music/art therapists, have important roles in this regard. The goals of management should include alleviating pain/discomfort, anticipating anxiety following a painful procedure with subsequent preparation of the child pre-procedure, and ensuring that parental anxiety is also addressed. Cognitive behavioral therapy (CBT), which can include the use of guided imagery and relaxation techniques appropriate to the child’s age, has been shown to be effective and should be used when possible in the treatment of anxiety<sup>7</sup>. More recently, psychosocial interventions aimed at teaching skills to adolescents and young adults with cancer to help them navigate challenges associated with serious illness have been associated with benefit-finding and hopeful thinking, two coping skills which may also help to mitigate manifestations of psychosocial stress such as anxiety<sup>8</sup>.

In addition to non-pharmacologic anxiety management strategies, pharmacologic adjuncts may be helpful for certain patients for whom anxiety continues to negatively impact quality of life. For children with acute situational anxiety (i.e. prior to procedures, treatments, or hospital visits), benzodiazepines such as midazolam or lorazepam (shorter-acting) as well as clonazepam (longer-acting) may be used<sup>9</sup>. Lorazepam can also be useful in the treatment of anxiety that is related specifically to the anticipation of nausea/vomiting prior to medical interventions due to its anti-emetic properties. For children with generalized anxiety, including those with pre-existing anxiety prior to the diagnosis of a serious illness, a selective serotonin reuptake inhibitor (SSRI) may be considered. The SSRIs approved for children by the U.S. Food and Drug Administration (FDA) are fluoxetine, sertraline, and fluvoxamine<sup>10</sup>, though others are used off-label. It is important to screen children for the presence of an anxiety disorder which may lead to referral to a child psychiatrist.

*Personal details in the case published have been altered to protect patient privacy.*

For palliative care consultations please contact the Supportive and Palliative Care programs at PUH/MUH, 412-647-7243, pager # 8511, Shadyside, 412-647-7243, pager # 8513, Perioperative/ Trauma Pain, 412-647-7243, pager # 7246, UPCI Cancer Pain Service, pager 412-644-1724, Magee Women’s Hospital, pager 412-647-7243 pager # 8510, VA Palliative Care Program, 412-688-6178, pager # 296. Hillman Outpatient: 412-692-4724. For ethics consultations at UPMC Presbyterian-Montefiore and Children’s pager 412-456-1518

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**Case Follow-up:** E.'s anxiety appeared to be related primarily to her acute hospitalization and symptoms (pain, nausea) she experienced post-operatively. She was followed closely by the supportive and palliative care interdisciplinary team, including music therapy, child life services, and art therapy, to which she responded well. Pain was well controlled as her methadone was weaned. She had available anti-emetics including a scopolamine patch, as-needed ondansetron, and aromatherapy "stickers," and she was having regular bowel movements with scheduled stimulant and osmotic laxatives. As part of the larger care team, nursing staff were encouraged to allow E. choices regarding her care (e.g. doing routine care now vs. 15 minutes from now) to help support her sense of control, as well as clustering of her care when possible. In thinking about the case retrospectively, there were likely additional opportunities for anticipatory guidance for both E. (letting her know what was going to happen in her care before it happened to reduce her fear of the unknown) and her parents in the use of these psychosocial strategies. She was discharged to home on postoperative day 17 with adequate control of pain, anxiety, and nausea.

**Summary:** Anxiety is a common symptom experienced by seriously ill children of all ages that has many potential causes and treatments. Management strategies should focus on non-pharmacologic treatments. When necessary, pharmacologic therapy with benzodiazepines and/or SSRIs as adjuncts should also be considered. All management strategies for anxiety symptoms in children should begin with open communication and attempts to identify the trigger, if present. Health care professionals should recognize that as most anxiety symptoms are treatable, it is important to identify and address them promptly.

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