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Perspectives on pediatric pain

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When I hear a baby's cry of pain change into a normal
cry of hunger, to my ears that is the most beautiful music—
and there are those who say I have good ears for music

Albert Schweitzer, MD (1875-1965)

Introduction

Pain in the newborn, child, or adolescent is a complex phenomenon that can be acute or chronic, mild to severe, and invoke complex reactions in the patient, family, and clinician. Pain is a feeling that humans find very unpleasant and seek to ameliorate and stop as soon as possible. Individuals go to their clinicians seeking the cause of their pain and ways to deal with their discomfort. Clinicians have not always been well-trained to appreciate or prevent pain in their patients and this seems especially true for young pediatric patients. Perhaps pain in the newborn and toddler have been the most difficult for clinicians to comprehend and manage. We have learned that pain afferent tracts develop at 21 weeks gestation and indeed, mature pain receptor mechanisms are identified after 26 to 30 weeks of gestation (1-3). Thus, newborns and toddlers are fully capable of feeling pain, which can have major physiological and psychological effects on these defenseless human beings.

Such an understanding is only relatively recent since adults have ignored or underestimated newborn pain for centuries (1). Over time pediatric health care personnel have tried to gauge newborn pain with scales based on vital signs, types of newborn crying, changes in sleep patterns, oxygen saturation levels, extremity or other body movements, and others (3). Scales utilized in pediatrics include FLACC (Face Leg Activity Cry Consolability), Premature Infant Pain Profile, and CHIPPS (Children's and Infant's Postoperative Pain Scale) (1). If acute pain becomes chronic, changes in pain perception may occur (4).

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Be aware of pain

As seen with all patients with pain, clinicians seek to lessen, remove, and/or prevent the pain itself if possible. Pain-inducing procedures that are not clearly needed to perform should be avoided in newborns and toddlers (5). Careful attention to the procedure details is important, as for example, in performing injections or heel sticks, being careful with the needle used, the technique utilized, and the addition of pain control measures (6). Pain can be reduced with topical anesthetic creams, subcutaneous anesthesia, and even regional anesthesia (1). These lessons can be appropriately applied to all age groups. Non-pharmaceutical measures for newborns include therapeutic touch, swaddling, facilitated tucking, Kangaroo care, breastfeeding, sucrose or other oral sweet-tasting substances, and white noise (1, 7, 8). Children and youth are fearful of pain-inducing procedures such as injections and blood drawing. Painful vaccinations such as the human papillomavirus vaccine, can be upsetting to adolescents inducing post-vaccination syncope (9). Health care professionals should be aware of such examples and seek to reduce the pain and deal with potential effects such as fainting.

Methods to provide pain control in any pediatric patient can be based on seeking to understand the child or adolescent's pain experience based on such issues as how this pediatric patient indicates the presence of pain and how pain has been handled in the past (10). Traditional means of pain control include pharmacological interventions including use of acetaminophen, non-steroidal anti-inflammatory drugs (NSAIDs), opiates and other drugs. Chronic pain provides particular difficulties for patient and provider and chronic pain is characteristically seen in children with regard to headache, back pain, abdominal pain, and musculoskeletal pain (10). A number of pain triggers can be seen in youth including poor sleep habits, menstruation in females, depression, stress, and others (10). The pediatric patient can experience considerable anxiety with the anticipation of medical evaluations which can trigger a need for painful procedures. Coping skills of the patient and parents can also influence the chronic pain situation. Clinicians can worry about adverse effects

of powerful analgesics (i.e., opiates) that can lead to addiction (1, 10).

Not all babies can be born healthy or whole, but individuals directly involved with infant care can work together to treat, comfort, and ease a seriously ill child.

James Strain, MD (1983—Former President and Executive Director, American Academy of Pediatrics: 1986-1993)

Palliation

Pediatric patients with pain related to a chronic, incurable illness, are placed in various protocols of “palliative care” in attempts to ease the suffering that occurs. Palliation comes from the Latin word, *palliare*, meaning “to cloak.” The origin of “pallium” is “palla” that was an upper garment worn by females and comes from the Proto-Indo-European word, “*pol*” or “*pel*”—referring to a pelt, a covering, or to skin. As languages evolved, the French word “*palliatif*” (medieval Latin “*palliatives*”) came from late Middle English and led to the modern French word, “*peau*” (skin) and “*poil*” (body hair). Cloaking has a variety of synonyms including relieve, blunt, soothe, alleviate, ease, mitigate, soothe, and allay.

Over the millennia of human existence, clinicians have sought to relieve the suffering of those with severe pain from various causes including that found in those with an incurable illness. This attempt to “palliate” or “cloak” this suffering is important whether the underlying cause is oncogenic, neurologic, gastroenterologic, dermatologic, psychosomatic, or other. Human history is replete with many disease epidemics ravaging the population leading to tragic suffering of many. Palliative care developed out of the hospice movement that has arisen over the past two millennia.

Originally hospices were places for weary travelers to rest in the 4th century and eventually hospices of the 19th century were developed by individuals seeking humane ways to care for the ill and dying in London and Ireland. The champion of this movement in the 20th century was Dame Cicely Saunders (1918-2005) who established London's St Christopher's Hospice in 1967 that stimulated the hospice movement of the 20th and now 21st century (1, 11). Basic to this development was to understand the

cause (s) of suffering and pain while seeking humane ways to relieve, cloak, or palliate it.

Relief of pain and suffering can take place in various arenas such as the home, outpatient facilities, hospice care center, or the hospital milieu. Clinicians should provide care that is up-to-date but complete to relieve the pain and suffering as much as possible. Simple language including access to translators as needed should be used for patients and family members who may not understand medical jargon (12). Various methods of pain relief delivery should be reviewed with pediatric patients and families so they all understand what is available, what benefits there may be, and what adverse effects may arise. Meeting with other families undergoing similar issues may be beneficial for the family. Clinicians should remember that all patients and families can be profoundly overwhelmed by such issues regardless of their background.

The issue of severe pain is complicated if found in a patient who is in end-of-life care. Death is a reality for children and adolescents as over 53,000 children and 3,000 adolescents die each year in the United States from one or more chronic illnesses (13, 14). Youth can die from other causes as well including over 14,000 from unintentional injuries (mainly motor vehicle accidents), 5,000 from homicide, and 4,000 from suicide in the United States (15). Caring for youth is complicated by concepts of consent and confidentiality (16). What are the rights of youth for caring (including pain relief) and what are the rights of parents if they disagree on this care? When do the rights of the child override rights of parents? Do pediatric patients have the right to consent or assent to potentially mutilating surgery (i.e., limb amputation), refusal of treatment, or requests for potentially addictive medication for pain relief?

Conclusion

It is in the light of these various complex issues the underlying theme in this publication is to consider causes and management of pediatric pain. We look at different perspectives of pain including fibromyalgia, peripheral neuropathies, sports-related pain, pelvic pain, recurrent headaches, recurrent abdominal pain,

dermatologic pain, oncologic pain, and psychosomatic pain. These reflections offer unique and beneficial perspectives for clinicians as they seek to ameliorate pain in their pediatric patients and offer an improved quality of life. This publication is a welcome addition in efforts to relieve suffering of these precious pediatric persons.

Can I see another's woe,
And not be in sorrow too?
Can I see another's grief,
And not seek for kind relief?

Can I see a falling tear,
And not feel my sorrow's share?
Can a father see his child
Weep, nor be with sorrow filled?

Can a mother sit and hear
An infant groan, an infant fear?
No, no! never can it be!
Never, never can it be!
William Blake (1757-1827)

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