



Metoclopramide-Induced Gynecomastia
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Case: Mr BT is a 57 year old man with stage IV laryngeal squamous cell carcinoma, status post radiation and chemotherapy who is now thought to have no evidence of metastases or recurrence. He was followed in a palliative care clinic for chronic musculoskeletal pain and was referred to a new palliative care physician when his prior physician left the practice. Upon presentation to the new physician, the patient complained mainly of painful gynecomastia (excessive growth of breasts in a male) without galactorrhea (spontaneous flow of milk from the nipple) for the past several months. Besides some unrelated knee pain, his examination was remarkable only for bilateral tender gynecomastia. He had not undergone any endocrinological lab studies and a recent PET/CT of the head/neck/chest/abdomen/pelvis was unremarkable. Upon review of his medications, the only possible culprit was metoclopramide which had been started approximately one year prior for nausea. The nausea had since resolved but he was still taking the medication since it was prescribed on a scheduled basis. The metoclopramide was discontinued and several labs were ordered in consultation with endocrinology including testosterone, prolactin, TSH, free T4, FSH, LH, estradiol and HCG. Lab workup was largely unrevealing although most, including the prolactin level, were drawn after the metoclopramide was discontinued. Over the several months following metoclopramide discontinuation the patient's gynecomastia resolved without any recurrence of his nausea.

Discussion: This case, although relatively simple, is important for two major reasons. First, it reminds us of a rare but significant side effect of a medicine commonly used in Palliative Care. Second, and perhaps more importantly, it highlights the dangers of polypharmacy in the Palliative Care setting.

Metoclopramide is a Dopamine type 2 (D2) receptor antagonist and is used as an antiemetic and prokinetic agent. In addition to these effects, it also reliably increases prolactin levels through its action on the D2 receptor. Dopamine normally inhibits pituitary secretion of prolactin. Metoclopramide administration blocks this inhibition resulting in increased prolactin levels.¹ This effect has been used as both a research tool and as a clinical test. Symptomatic gynecomastia from elevated prolactin in patients taking metoclopramide, however, is rare, although it has been reported² Galactorrhea has also been reported. In fact, metoclopramide has been used to augment lactation in breast-feeding women³ Upon serologic testing, prolactin levels will generally be elevated in metoclopramide-induced gynecomastia. Discontinuation of the drug generally results in resolution of the symptoms.

Since metoclopramide is generally considered a first line antiemetic and is frequently used in clinical Palliative Care practice, this case serves as useful reminder of this rare but significant side effect.

The equally or more important message from this case, however, is the need for careful medication management in this vulnerable population.⁴ Going back to Cicely Saunders, one of the guiding principles of Palliative Care is the scheduled administration of medications to provide continuous symptom control. Recent literature reinforces this concept in the management of nausea and vomiting.⁵ In addition, it is suggested to not only use scheduled antiemetics but to add second and third antiemetics as needed instead of stopping one and starting another. While this method has been shown to provide effective relief of symptoms, it can expose the patient to a high risk of side effects if the practitioner fails to taper the medications after the emetic impulse has resolved. This patient had no recurrence of his nausea with discontinuation of his metoclopramide, suggesting that he could have been spared the development of gynecomastia if the metoclopramide had been tapered earlier.

This case also reinforces one of the most basic but important principles in medicine: symptoms which emerge after initiation of a medication are most likely caused by that medication. Because of the serious and progressive nature of the illnesses encountered in Palliative Care, it can be easy to assume that all clinical deterioration is due to worsening of the underlying disease. This case reminds us of the importance of a solid understanding of medication adverse effects and the need for a constant vigilance for these outcomes. Fortunately for Mr BT, the culprit medication was discovered and the symptoms resolved with discontinuation, thereby allowing him to get back to enjoying his life after what appears to be a very successful initial treatment of his serious underlying cancer.

References:

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For palliative care consultations please contact the *Palliative Care Program* at PUH/MUH, 647-7243, beeper 8511, Shadyside Dept. of Medical Ethics and Palliative Care, 623-3008, beeper 263-9041, Perioperative/ Trauma Pain 647-7243, beeper 7246, UPCI Cancer Pain Service, beeper 644-1724, Interventional Pain 784-4000, Magee Women's Hospital, 641-2108, beeper 917-9276, VA Palliative Care Program, 688-6178, beeper 296. For ethics consultations at UPMC Presbyterian-Montefiore, and Children's page 958-3844. With comments about "Case of the Month" call David Barnard at 647-5701.