Journal Watch

Rapid titration with intravenous morphine for severe cancer pain and immediate oral conversion.
Mercadante S, Villari P, Ferrera P, Casuccio A, Fulfaro F. *Cancer* 2002;95:203-208.

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Abstract:
BACKGROUND: Cancer pain emergencies presenting with severe excruciating pain require a rapid application of powerful analgesic strategies. The aim of the current study was to evaluate a method of rapid titration with intravenous morphine to achieve relief of cancer pain of severe intensity.
METHODS: Forty-nine consecutive patients admitted to a Pain Relief and Palliative Care Unit for severe and prolonged pain were enrolled in the study. Pain was evaluated on a numeric scale of 0-10 (0 indicated no pain and 10 indicated excruciating pain). After the initial assessment (T0), an intravenous line was inserted and boluses of morphine (2 mg every 2 minutes) were given until the initial signs of significant analgesia were detected or severe adverse effects occurred (T1). A continuous reassessment was warranted and the effective total dose administrated intravenously was assumed to last approximately 4 hours and was calculated for 24 hours. The dose immediately was converted to oral morphine (a 1:3 ratio for low doses and a 1:2 ratio for high doses).
RESULTS: Data from 45 patients was analyzed. A significant decrease in pain intensity was achieved in a mean of 9.7 minutes (95% confidence interval [95% CI], 7.4-12.1 minutes), using a mean dose of intravenous morphine of 8.5 mg (95% CI, 6.5-10.5 mg). The doses administered rapidly were converted to oral morphine and pain control was maintained until the patient's discharge, which occurred in a mean of 4.6 days (95% CI, 4.1-5.2 days). The incidence of adverse effects was minimal.
CONCLUSIONS: The results of the current study demonstrate that cancer pain emergencies can be treated rapidly in the majority of cancer patients with an acceptable level of adverse effects. Intravenous administration of morphine requires initial close supervision and continuity of medical and nursing care.

Comments:

Strengths/uniqueness: The study's strengths include its prospective design, the standardized treatment protocol and the systematic assessment of pain intensity and adverse effects of morphine.

Weaknesses: Given the uncontrolled and unblinded nature of the study, the subjective symptom ratings are open to bias. More detailed characterization of the patient population

(baseline opioid doses, cognition, psychological state, coping history) would have been helpful for interpretation of results.

Relevance to Palliative Care: This study suggests that intravenous morphine titration may achieve pain control in a rapid and safe manner, in patients with severe cancer pain who are opioid-naïve or on low opioid doses and who are admitted to an inpatient setting. However, it is debatable whether this approach is advantageous compared to oral titration in an outpatient setting. The mean oral morphine dose on the day after the intravenous titration was 104 mg/day, which probably could have also been achieved with short-acting oral morphine every four hours plus breakthrough doses every hour as needed. Although pain control may be achieved in minutes with the intravenous route as opposed to hours with the oral route, the significance of the time difference is unclear, given that these patients were said to have been in severe pain for days already. Oral titration may avoid the need to hospitalize the patient; however, its success depends on frequent monitoring by the physician for dose adjustments.