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FOR IMMEDIATE RELEASE...

Pain-Topics.org Offers Safety Tips for Avoiding Opioid Risks in Patients With Kidney or Liver Disease

Opioid analgesics must be cautiously prescribed to avoid overdose, respiratory depression, and other adverse effects in patients with renal or hepatic dysfunction. A new evidence-based report from Pain-Topics.org provides clinical safety guidance.

Glenview, IL; June 2007 – Patients with kidney or liver disorders often need opioid analgesics for effective pain relief. However, there is a risk of opioid overdose or other adverse events in these patients due to the possibility of altered drug metabolism and clearance. Until now, there has been no comprehensive resource providing clinical information that supports specific opioid-dosing recommendations in these patients.

A newly-released clinical-guidance document from *Pain Treatment Topics* – **Opioid Safety in Patients With Renal or Hepatic Dysfunction** by Sarah J. Johnson, PharmD – stresses that knowledge of opioid metabolism and excretion in patients with renal and/or hepatic dysfunction is essential for adequate pain relief while minimizing adverse effects. A comprehensive list of cautions and dosing recommendations relating to various opioids is provided.

To access this document, go to:

<http://www.pain-topics.org/pdf/Opioids-Renal-Hepatic-Dysfunction.pdf>.

Up to one-third of patients with kidney dysfunction also receive opioids to relieve pain, and providing adequate pain control while avoiding harmful drug accumulation can present challenges. If dialysis is necessary, properties of the parent opioid drug and its metabolites, as well as dialysis methods and equipment, must be considered. Similar problems exist for patients with hepatic dysfunction because the liver is responsible for metabolism of the parent opioid drug to active and

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Opioid Safety in Patients With Renal or Hepatic Dysfunction


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It has been estimated that up to one-third of patients with renal dysfunction (defined as creatinine clearance [CrCl] < 50 mL/min) also receive opioids to relieve pain (www.2007). Use of opioids in these patients can present a challenge because adequate pain control is necessary while balancing the risk of overdose due to altered drug clearance and accumulation of the opioid parent drug and/or metabolites in the presence of renal dysfunction.

During dialysis, properties of the parent opioid drug and its metabolites, as well as physical properties of the dialysis equipment (eg, filter pore size), flow rate, the efficiency of the technique used, and dialysis method (intermittent versus continuous dialysis), must be considered to achieve effective pain relief without adverse effects. Similar problems exist for patients with hepatic dysfunction because the liver is responsible for metabolism of the parent opioid drug to active and inactive metabolites.

When patients with renal or hepatic dysfunction receive opioid analgesics, it is essential to understand and consider how opioid pharmacokinetics can be altered. This is necessary to ensure appropriate pain relief for the patient while limiting serious and potentially preventable adverse effects – such as respiratory depression, hypotension, or central nervous system (CNS) toxicity – from either the parent drug or its metabolites. This paper addresses considerations for the safe use of opioid agents in patients with renal and/or hepatic dysfunction.

It is essential to understand how opioid pharmacokinetics may be altered by kidney or liver disease to ensure appropriate pain relief for the patient, while limiting serious and potentially preventable adverse effects.



inactive metabolites. Besides potentially fatal opioid overdose, serious and often preventable adverse effects from either the parent opioid drug or its metabolites include: respiratory depression, hypotension, or central nervous system (CNS) toxicity.

Critical Prescribing Pointers in the Report: In renal or hepatic dysfunction, usual or adjusted doses may be appropriate for opioids such as morphine, hydromorphone, or hydrocodone. Other opioids should be avoided at all times – including codeine, meperidine, and propoxyphene – and oxycodone should not be used in dialysis patients. Methadone and fentanyl are generally not first-line therapies although they can be carefully used in patients with renal dysfunction or on dialysis, but methadone is not advised in severe liver failure. For most patients with kidney or liver disease, either morphine or hydromorphone could be a good starting therapy if an opioid agent is appropriate for pain relief.

Pain Treatment Topics and the Pain-Topics.org website provide open and free access to non-commercial, evidence-based clinical news, information, research, and education on the causes and effective treatment of the many types of pain conditions. It is independently produced and is currently supported by an unrestricted educational grant from Mallinckrodt Inc., St. Louis, MO, a leading manufacturer of generic opioid analgesic products.

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