Hepatitis B treatment

Sumanpreet Saluja

Grand Canyon University

3/11/18

**For black American young female hepatitis B patients, how does acetaminophen compare to ibuprophen affect the functioning of the liver?**

While patients with hepatitis B can use acetaminophen, ibuprophen or other painkillers, the effects of either on liver is different and especially when the liver has an initial damage from other sources. For this reason, it is essential to take note of the medication before prescribing to the patient. Further, other factors play a very big role during medication is the age and sometimes gender. With Black American female youths, acetaminophen would cause damage to the liver especially when taken in overdose or for longer duration. It is therefore not a good practice for young adolescents to take for a period exceeding five days. In fact, for children with chronic diseases like in the case of hepatitis B, the dosage should be lesser than five days normal timeframe (Lipman & Hackett, 2017). Acetaminophen causes liver damage when the liver depletes glutathione, which is essential for the detoxification of the drug. While detoxifying the drug, Glutathione binds to the harmful metabolites. Upon saturation of the pathway, the outcome of the free intermediates damages the liver.

According to the research by Stephens, Derry & Moore (2016) with the doctors at the Henry Ford Health System Gastroenterology during a liver disease forum, acetaminophen may cause damage to the liver upon taking over 7grams as a single dose prescription. However, in young adults who are substance or alcohol abusers, toxicity for the acetaminophen can occur even with the recommended dosages (Langhendries et al., 2016). However, the United States Poison Control Centers affirm that acetaminophen is safe when taken as directed by the physician who considers all possible side effects. Although acetaminophen is basically nonprescription, it is wrong for people to assume it is always safe and thus it is essential to note the high risks to the liver upon high dosage or long period usage. Unlike other painkillers like the ibuprophen, acetaminophen's liver toxicity is noticeable in its magnitude (Blue et al., 2018).

Therefore, comparing acetaminophen to ibuprophen as one of the newest pain killers, it is noteworthy that the drugs are for mild to moderate pains. Ibuprophen is one of the effective anti-inflammatory that inhibits normal platelet function. This research and the findings by the physicians at the Henry Ford Health System’s Gastroenterology in a Liver Disease Forum establishes that, ibuprofen is not hepatotoxic or toxic to the liver like the case of acetaminophen. Nonetheless, ibuprofen may cause or induce a transitory rise in alanine aminotransferase (ALT), an enzyme that is released when liver cells are damaged or die (Koh, Nguyen, & Jahr, 2015). And ibuprofen, when taken in excessive doses over time, has been known to cause toxic hepatitis. According to a survey in the American Journal of Gastroenterology, patients with chronic hepatitis B and C could have markedly elevated levels of liver enzymes—a sign of liver cell damage—if they take ibuprofen.

While ibuprofen is deemed necessary to patients with hepatitis B for relieving pains, it is important to carefully monitor the liver for any damages at least for the initial three months of usage. With the ibuprofen, the patients may have a longer sleep than in the case of the acetaminophen. According to the data by the Children's Hospital Medical Center of Cincinnatian, acetaminophen should not be taken for more than five times a day but a gap of four hours can work well (Koh, Nguyen & Jahr, 2015). On the other hand, to avoid severe side effects too the adolescents with hepatitis B or other patients, Ibuprofen should be given after every six hours with a maximum of four times a day. Ibuprofen may have side effects including vomiting, stomach upsets, ulcers and kidney damages when children or adolescents take without enough water.

References

Stephens, G., Derry, S., & Moore, R. A. (2016). Paracetamol (acetaminophen) for acute treatment of episodic tension‐type headache in adults. *The Cochrane Library*.

Blue, N. R., Drake-Lavelle, S., Weinberg, D., Holbrook, B. D., Katukuri, V. R., Leeman, L., ... & Mozurkewich, E. L. (2018). LB04: Effect of Ibuprofen versus acetaminophen on postpartum hypertension in preeclampsia with severe features: a double-masked, randomized controlled trial. *American Journal of Obstetrics and Gynecology*, *218*(1), S604.

Langhendries, J. P., Allegaert, K., Van Den Anker, J. N., Veyckemans, F., & Smets, F. (2016). Possible effects of repeated exposure to ibuprofen and acetaminophen on the intestinal immune response in young infants. *Medical hypotheses*, *87*, 90-96.

Lipman, G. S., & Hackett, P. (2017). In Response to Ibuprofen vs Acetaminophen in AMS Prevention by Kanaan et al. *Wilderness & environmental medicine*, *28*(4), 383-385.

Koh, W., Nguyen, K. P., & Jahr, J. S. (2015). Intravenous non-opioid analgesia for peri-and postoperative pain management: a scientific review of intravenous acetaminophen and ibuprofen. *Korean journal of anesthesiology*, *68*(1), 3-12.