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Drug Worsens Hypertension and Plasma Impact Exerted by Paracetamol

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DESCRIPTION

Analgesic use is widespread since pain is so prevalent. If commonly used analgesics even modestly raise heart disease risk, the knock on consequences can be severe: If the most widely used analgesic in the world were to significantly raise blood pressure, this would be a public health catastrophe. Acetaminophen is the most widely used analgesic in the world and one of the alternatives on the first rung of the World Health Organization analgesic stair for treating cancer pain. Acetaminophen's effectiveness as an analgesic for chronic pain has recently come under scrutiny. However, clinicians and patients are encouraged about ongoing long term use thanks to acetaminophen's perceived safety. This is still the case when contrasted to substitute over the counter analgesics such Non-Steroidal Anti-Inflammatory medicines (NSAIDs), which have well-known negative effects include increased cardiovascular risk, hypertension, gastrointestinal ulcers, and acute renal injury.

Acetaminophen's safety profile is currently under investigation. Previous observational studies have found correlations with a rise in adverse gastrointestinal, renal and cardiovascular events. According to the nursing health study II, there is a dose dependent link between regular paracetamol usage and hypertension, with a Relative Risk (RR) of 2.00 for high blood pressure (compared to an RR of 1.86 with NSAIDs). These epidemiological studies are susceptible to confounding and

selection bias, though. Only 33 patients with coronary heart disease were included in the largest previous completely random, randomized controlled crossover trial, which found that taking acetaminophen 1g three times per day caused a statistically significant increase in outpatient Blood Pressure Monitoring (ABPM) of 2.9 mmHg diastolic pressure.

High quality evidence were required to address this safety risk due to decreasing confidence in acetaminophen's analgesic efficacy and growing concerns that it might exacerbate hypertension. In order to analyse the effects of paracetamol with a control on Blood Pressure (BP) in hypertensive patients, the Ibuprofen Treatment in Hypertension-Blood Pressure (PATH-BP) experiment was established. Participants had to be at least 18 years old and hypertensive, which was defined as either being untreated with an average daytime ABPM between 135/85 and 150/95 mmHg or being treated for hypertension with an average daytime ABPM 150/95 mmHg on stable dosages of anti-hypertensive drugs. Exclusion factors that stuck out included having a history of myocardial infarction or heart failure, lead to blood clots, hepatic dysfunction, chronic renal disease stages 3-5, weight less than 55 kg, or taking paracetamol, NSAIDs, steroids, or oral anticoagulants on a routine basis.
One gramme of paracetamol was given four times a day for two weeks to participants, who were also randomly assigned to either a matched placebo or the American paracetamol dosage recommended in the box description. After a two week rest break, individuals transferred to the opposite treatment arm for an additional two weeks. Participants in the intervention attended four follow up appointments over the course of each of the two weeks, at which time clinic blood pressure was checked and twice 24 hour ABPM was performed. Paracetamol blood levels were checked to determine compliance. The decrease in mean daytime systolic ABPM after two weeks of paracetamol medication treated group was the primary outcome.
110 participants were randomized to the study between September 2014 and June 2019, and 103 people were included in the intention to treat analysis. All individuals were white, had an average age of 62, were 24% female and were taking at least one hypertensive drug.

The mean daytime diastolic ABPM increased significantly in the paracetamol group compared to the placebo by 4.7 mmHg the 24 hour ABPM and clinic BP tests both showed consistent systolic and diastolic BP values, as well as a significant rise in the average daytime diastolic ABPM of 1.6 mmHg. Depending on clinic blood pressure measures, this decrease peaked by around day 7 and was apparent as early as day 4. One study participant who was taking acetaminophen did experience increased hypertension, which led to their disqualification. In the end, as healthcare professionals, we must determine whether a trial will alter our practise and it is helpful to learn through newspaper clubs how other physicians are responding to new information. It was decided that since there isn't a completely "safe" analgesic, we should keep looking for non-pharmacological pain management techniques as necessary. But we must also resist giving up and accepting that our patients will have to endure agony. In the discourse, it was noted that NSAIDs and opiates, which are some of our alternatives to paracetamol, are also risky.