Timing of food intake could impact the effectiveness of TB treatment

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The timing of food intake in the early phase of TB treatment could have a negative impact on the effectiveness of TB treatment.

A new study, presented at the European Respiratory Society (ERS) International Congress in Munich today (07 September 2014), suggests that eating food just before taking a TB drug could reduce the effectiveness of the medicine.

Researchers conducted a small study looking at 20 patients who were about to begin treatment for TB for the first time. They were given the usual course of TB drugs, including isoniazid, rifampicin, pyrazinamide and ethambutol. The drugs were administered by injection on day one and given orally on day two and three, either while fasting or with a high carbohydrate meal.

Blood samples were taken from each participant and an analytical chemistry technique, called liquid chromatography tandem-mass spectrometry, was used to separate the sample and give information about the chemicals present. This technique allows the researchers to assess concentration levels of the drug and fraction of the unchanged drug that reaches the circulation.

Blood samples were taken from the same individual and in the same environment while changing the food intake. The results showed that when the drugs were given with a high-carbohydrate meal, there was a lower concentration of isoniazid, rifampicin, and pyrazinamide in the

blood compared with when they were given in a fasting state. This suggests that eating a high carbohydrate meal, before taking the drugs can make the drugs less effective.

Dr Antonia Morita Iswari, lead author from the Universitas Gadjah Mada in Indonesia and currently completing her PhD program at the University of Groningen, said: "As the research was conducted in the same people and the same environment, the only variable was the meals and we therefore know that food can have an impact on the concentration of the drugs in the blood. The findings may have significant implications for clinical practice as we must ensure that patients are taking the drugs in the correct way to be as effective as possible."

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