



Laboratory Test Interference

High dose biotin intake may cause falsely abnormal test results

April 2018

Snapshot from the lab

Interference by endogenous and exogenous substances with pathology tests is not uncommon. These interferences include haemoglobin, lipids, bilirubin, paraproteins, drugs, heterophile antibodies and biotin.

Biotin has always been a potential interferent in immunoassays that use biotin-streptavidin technology. Although these assays are not affected by low dose ingestion of biotin, taking high dose biotin prior to blood collection can cause falsely abnormal pathology test results.

The use of high dose biotin (300mg/day) is becoming increasingly common in the treatment of Multiple Sclerosis. As well, some patients are taking high dose biotin supplements (>5mg/day) in the belief that it is beneficial for hair and nail beauty. Therefore clinicians need to have an increased awareness of this issue.

All medical practitioners should be aware that high doses of biotin (>5mg/day) can interfere with a number of laboratory assays causing spuriously abnormal results.

We have performed extensive investigations on the effect of high dose biotin on different tests. The interference varies depending on dose and time of ingestion, ranging from subtle abnormalities to significant errors. The results of tests can either be increased or decreased depending on the test design. As such false positives or false negatives may occur.

Tests that may be affected are restricted to immunoassays and include Thyroid Function Tests, Troponin T, HCG, Hepatitis Serology and HIV. Chemistry tests are not affected by biotin.

If you need urgent tests on a patient who is on high dose biotin, please contact the laboratory on: 02/4224 7474 for details of the tests affected and alternate testing methods.

Please note that biotin is "washed out" of the system in 8-72 hours, depending on the dose and time of ingestion. Biotin will not interfere with testing after that time.

To avoid spurious results with patients on high dose biotin please put "BIOTIN THERAPY" in the clinical notes section on the request form and the dosage (if known).

If more information is required please call our Chemical Pathologist Dr Grant McBride on 02/4224 7474.

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