A case of low urine creatinine

HOSP #		WARD	Sample from porphyria laboratory
CONSULTANT	Dr. Heleen Vreede	DOB/AGE	29y Female

Abnormal Result

[redacted] F 29 y [redacted]

Urine;

F.N.		Alt		RN [redacted]	Collection	28/02/2020	?
Hos	Groote Schuur Hospital wc GSH			021 404 9111	Received	03/03/2020	15:24
Wrd	Porphyria Laboratory K47			406 6206	Registered	03/03/2020	21:15
Doc	[0DR] Doctor In Charge .					ePR	Detail

Test Set	Staff Notes	Test Item	Result	Units	Normal Values	Previous Resul 1
UCREA		Urine creatinine	< 0.1	mmol/L		

Presenting Complaint

Upon signing blood results out, a creatinine result was measured by the analyzer as <0.1 mmol/L on a urine sample.

History

Clinical History was not available, but in my personal experience at the time, I haven’t seen such a low urine creatinine yet.

The possibilities in my mind, was that this was either a serum sample and could perhaps be incorrectly sent / registered from the Porphyria lab as serum, hence the result being < 0.1 mmol/L (<100umol/L if translated into serum reporting units).

Examination

The sample smelt and looked like urine. According to our new registrar, Mrs. Mariam Mahomed, it also tasted like urine. I was personally not capable of this task, so we decided to rerun the sample.

Mrs. Bilqees Jacobs, our technologist on the bench this day was of opinion that when such a low result is seen, it is usually due to a bubble aspirated by the analyzer's sampling probe.

Laboratory Investigations

[redacted]			F	29 y	[redacted]		
Urine;							
F.N.		Alt		RN [redacted]	Collection	28/02/2020	?
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Test Set	Staff Notes	Test Item	Result	Units	Normal Values	Previous Resul 1
UCREA		Urine creatinine	1.9	mmol/L		

The rerun of the sample as a urine creatinine gave the result as 1.9 mmol/L, more in keeping with a true urine creatinine result.

Other Investigations

None was necessary, but should the result have been < 0.1 mmol/L on the rerun, we would then have run the sample as a serum on the analyzer to more accurately quantify the value.

Final Diagnosis

Possibly, a bubble was aspirated by the analyzer's sampling probe and hence it did not pipette enough sample into the

reagent well, or likely not pipette any sample therein.

Take Home Messages

Try to avoid bubbles in samples.

This brings me to the point: whenever a ” lower than detection limit” is seen, think of the cause:

“Tiny Bubbles!”