

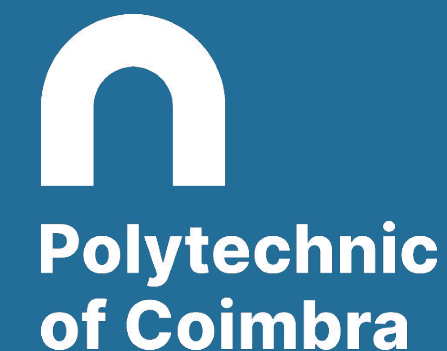
Ana Sofia Teixeira Magalhães, Inês Cardoso Tavares,
Leonor Fonseca Pinheiro, Mariana Moderno Francisco



Clinical Case



Clinical Biochemistry



Introduction



Mrs. Alzira, 78 years old, diabetic patient for 16 years, was transported by the INEM ambulance to a hospital emergency service. Despite warnings from her doctor, she has a long history of non-adherence to therapy, frequently forgetting to administer insulin.

Methods and results

Mrs. Alzira's blood tests had the following results:

	Results	Reference values
pH	7.29	7.35-7.45
PCO₂	41 mmHg	35-45 mmHg
HCO₃⁻	16 mmol/L	22-28 mmol/L
Ketone bodies	1.7 mmol/L	<0.6 mmol/L

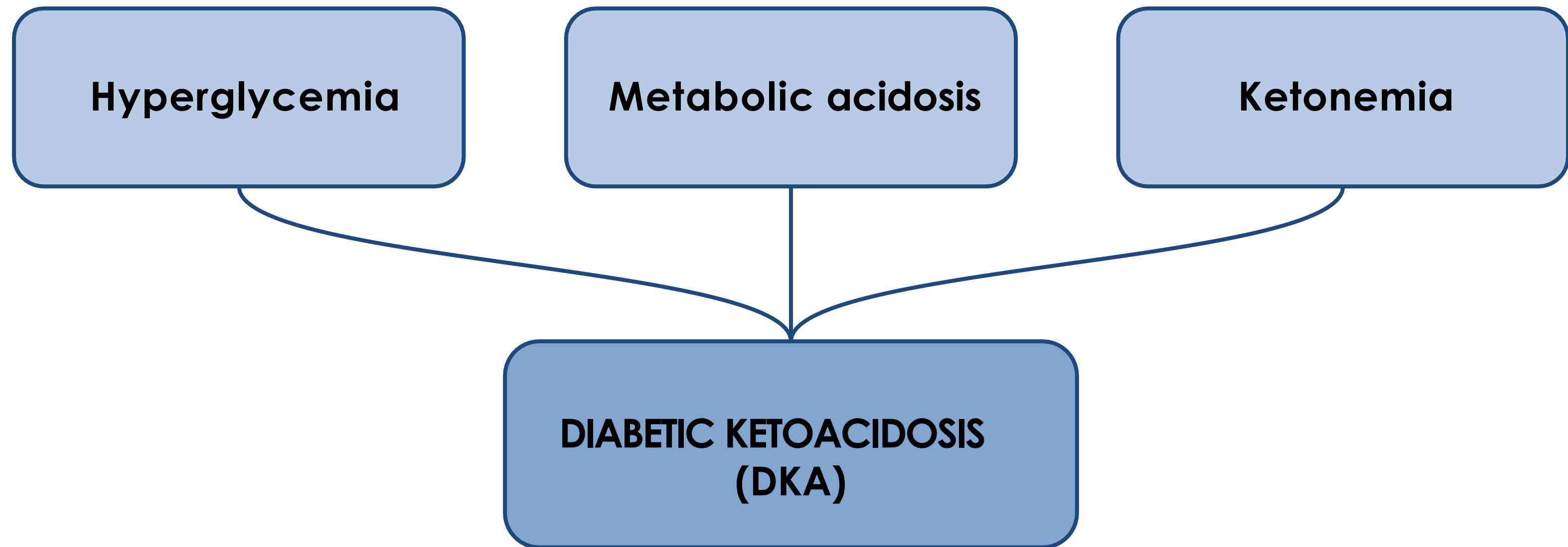
Source: Administração Central do Sistema de Saúde, IP (ACSS)

Discussion

Since there is a need of exogenous insulin administration (**hyperglycemia**) and considering her clinical history, it is possible to say that Mrs. Alzira has **Type 2 Diabetes**, since this disease generally affects individuals over the age of 40.

In addition to that, her blood tests revealed a decrease in pH and PCO_2 , suggesting **metabolic acidosis**, and an increase in ketone bodies, suggesting **ketonemia**.

Discussion- Diagnosis



Discussion

Laboratory tests to confirm the diagnosis:

Urinalysis

- Glycosuria
- Ketonuria

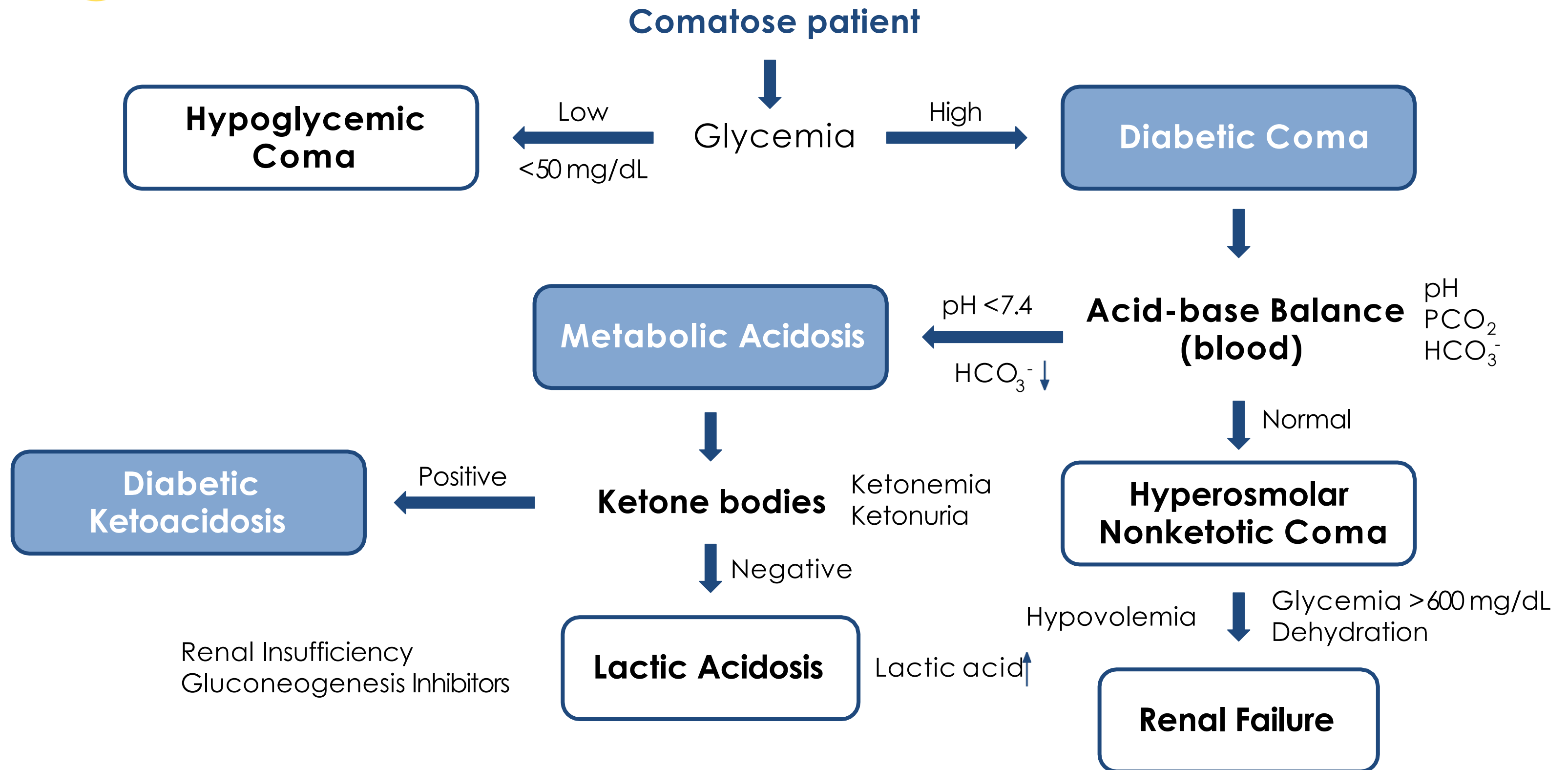
Blood test

- Glycemia
- Ketonemia

Arterial Gasometry

- pH
- HCO_3^-

Discussion- Differential diagnosis



Conclusion

After reviewing this clinical case, we can see that hyperglycemia, metabolic acidosis and ketonemia are necessary conditions that lead to diabetic ketoacidosis. Therefore, the patient should take a proactive role in the treatment of the disease, taking the prescribed medication, monitoring blood glucose and ketone bodies. In addition, early diagnosis is necessary and fundamental for the prevention of the effects associated with diabetic ketoacidosis.

Bibliography

- (s.d.). ACSS - Página Inicial. Available : https://www.acss.min-saude.pt/wp-content/uploads/2018/09/Tabela_Final.pdf.
- (s.d.). SPP - Sociedade Portuguesa de Pediatria. Available https://www.spp.pt/UserFiles/file/Relatorios%20seccoes/CAD_%20PROTOCOLO_FINAL%2020-05-2019.pdf.
- (s.d.). ACSS - Página Inicial. Available: https://www.acss.min-saude.pt/wp-content/uploads/2018/09/Tabela_Final.pdf.
- *Diabetic Ketoacidosis.* (s.d.). Centers for Disease Control and Prevention. Available: <https://www.cdc.gov/diabetes/basics/diabetic-ketoacidosis.html>.
- (s.d.). Home | Estudo Geral. Available: https://estudogeral.uc.pt/bitstream/10316/48269/1/Trabalho%20Final_Ana_Cristina_Cabral.pdf.

Biomedical Laboratory Sciences

Ana Sofia Teixeira Magalhães, Inês Cardoso Tavares, Leonor Fonseca Pinheiro, Mariana Moderno Francisco

Email address:

- sofymega2@gmail.com
- inescrdtavares@gmail.com
- leonorfpinheiro@gmail.com
- mariana.francisco2003@outlook.pt

