

Clinical Case Report

ESIM 2015

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Background information

- Female, 57 years old
- Schizophrenia
- Medication:
 - Chlorprothixene 50mg x1, Olanzapine 10+20mg, Diazepam 5mg x1 (+ additional doses up to 15mg/day if needed)

Sep 28-Oct 1 Health Care Centre

- Sep 28
 - UTI suspicion, pivmecillinam prescribed (had one dose), discharged
- Sep 29
 - Increased desorientation, admitted to the health care centre
 - CRP 80 (0-10)
 - Suspicion of pyelonephritis, ciprofloxacin 500mg 1x2
- Oct 1
 - Condition getting worse
 - B-leuc 4.2 (3.4-8.2), Hb 100 (117-155), trom 54 (150-360), CRP 117, potassium 4.6 (3.3-4.8), sodium 115 (137-144), creatinine 123 (50-90)

Oct 1 Emergency Department

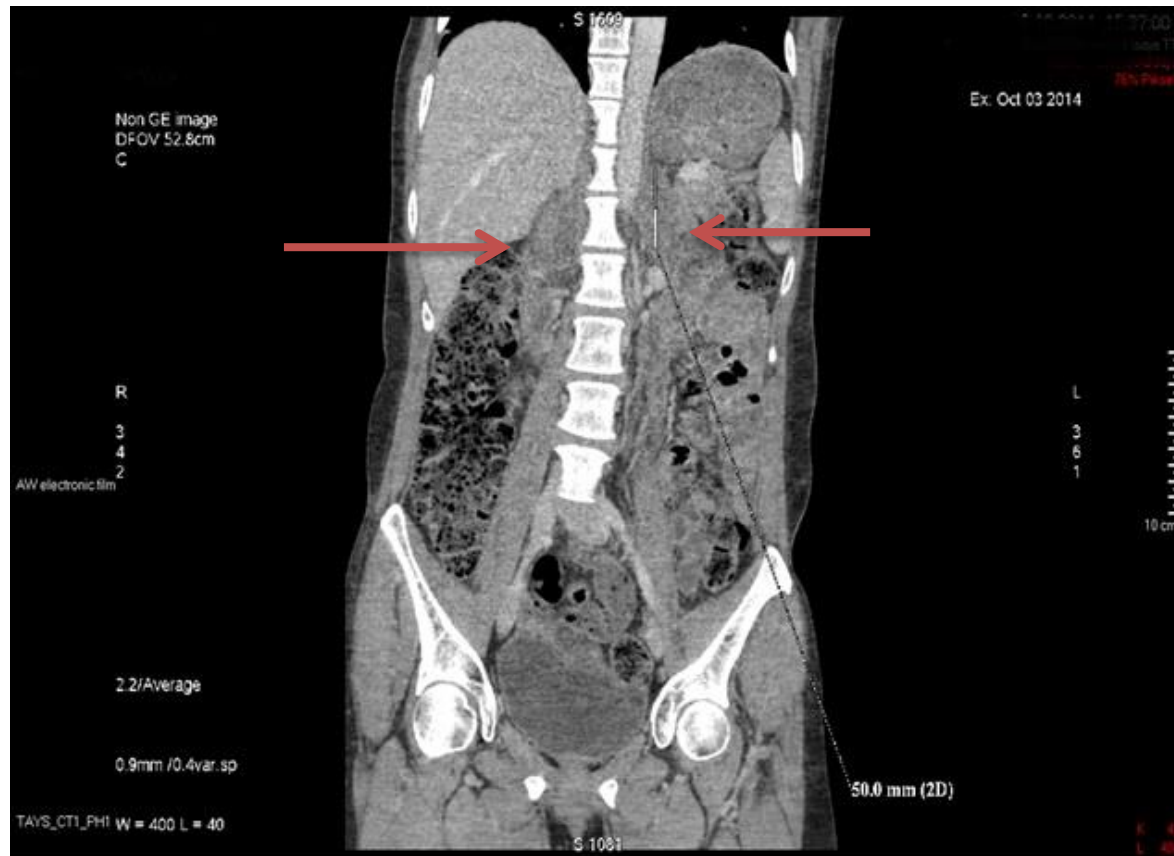
- Overall condition fine, fairly tired and slowed down
- No vomiting, nausea or pain
- Bp 98/61 mmHg, hr 102/min, SpO2 99%, temperature 35.1 °C
- Blood gas: pH 7.52 (7.35-7.44), pCO2 3.44 (4.5-6.0), pO2 8.46 (10.0-14.7), HCO3 21.4 (22-27), K 4.3, Na 108
- S-osmol 235 mosm/kg (285-300), u-osmol 286 (50-1200), U-Na 40
- TnT 1549 (0-15), EKG: SR 105/min, Q-waves III, aVF
- Cortisol 43 nmol/l

Initial diagnosis?

- Hypocortisolism
- Pyelonephritis, sepsis?
- Acute myocardial infarction?
- Thrombocytopenia
 - Medication (Ciprofloxacin) induced?

Oct 1 -10 Internal Medicine ward

- Oct 3 CT-scan of adrenal glands
 - No adenomatous tissue, both adrenal glands filled with hemorrhage (enlarged, high attenuation)



Causes of adrenal hemorrhage

Dhawan et al. 2015, Kovacs et al. 2001, Simon et al. 2009

- Trauma
- Sepsis (Waterhouse-Friedrichsen syndrome in gramneg. sepsis)
- AMI
- Surgery
- Congestive heart failure
- Pregnancy
- Exogenous steroids
- Anticoagulants
- Antiphospholipid syndrome
- Heparin-induced thrombocytopenia
- Disseminated intravascular coagulopathy
- Underlying adrenal tumors (adenoma, hemangioma, pheochromocytoma, adrenocortical carcinoma, metastases)

Clinical presentation of adrenal hemorrhage

Dhawan et al. 2015, Kovacs et al. 2001, Simon et al. 2009

- Back or **epigastric pain**
- Low-grade fever
- Nausea, vomiting
- **Weakness**, dizziness, **fatigue**, **confusion**
- **Tachycardia**
- **Hypotension**, **hyponatremia**, hypoglycemia, hyperkalemia
- **Anemia**

Oct 1-10 Internal Medicine ward

- ACTH **160** (0.0-46.0), S-aldosterone **<30**
- Cardiac echo: EF 51%, minor mitral valve regurgitation, possible Takotsubo syndrome
- Permanent hydrocortisone and fludrocortisone substitutions
- Infection was treated with cephtriaxone and cephalixin, blood cultures were negative

- APTT **48 s** (23-35s), AT3 77% (80-120%), TT 99% (70-130%)
- Decreased activity of F IX, F XI and F XII
- Von Willebrand factor normal, no phospholipid antibodies
- Peripheral blood smear: no fragmentation or hemolysis
- dU-Metnef **<0.1** (0.1-1.4), dU-Normet **5.0** (0.5-4.2), dU-MTA 1.5 (0.1-2.3)

Follow up

- Dec - Jan
 - dU-Metnef < 0.10, dU-Normet 4.2
 - No signs of pheochromocytoma
 - Body-CT: Adrenal hemorrhages have disappeared, left adrenal gland not properly visible, right adrenal gland slightly enlarged. No adenopathy or any visible malignancies or tumors
 - Bone marrow samples (aspirate and biopsy) normal
 - Reason for pancytopenia unclear, medication induced?

Coagulation defects

Date	FVIII (59- 131%)	FIX (82- 131%)	FX (73- 128%)	FXI (74- 128%)	FXII (52- 42%)	APTT (24- 40s)	vWF %	Lupus antibod ies	PL-Ab
7.10.14	101	59	-	40	50	39	150	-	neg
10.10.14	83	54	-	41	59	36	155	-	-
29.12.14	43	36	95	21	35	40	144	-	-
14.1.15	-	-	-	-	-	-	-	pos	-
2.2.15	27	29	-	14	33	51	115	pos	neg

- Discrepancies in the results:
 - FVIII 38% when measured with an APTT-based method and 125% when measured with a chromogenic method
 - autoantibodies? (FIX, FXI, FXII, APTT not reliable?)
- Hemophilia A (F VIII), B (F IX) and C (F XI) highly unlikely

Management of adrenal hemorrhage

Simon et al. 2009

- Treatment of adrenal insufficiency
 - Hydrocortisone replacement
 - Fluid and electrolyte replacement in the acute setting
 - Mineralocorticoid added when hydrocortisone <50mg/day, need for prolonged therapy?
- Nonoperative treatment for trauma and non-trauma patients, angioembolization may be necessary with continued bleeding
- Follow-up imaging necessary

Conclusions

- Bilateral adrenal hemorrhage is a rare condition that can be caused by several factors
- Crucial to identify adrenal insufficiency and begin treatment
- Follow-up imaging necessary to identify possible tumors

References

- Dhawan et al. *Idiopathic bilateral adrenal hemorrhage in a 63-year-old male: a case report and review of the literature*. Case Rep Urol. Epub 2015 Apr 21.
- Kovacs et al. *Bilateral Massive Adrenal Hemorrhage*. Medicine 2001; 80: 45-53
- Simon et al. *Clinical update on the management of adrenal hemorrhage*. Curr Urol Rep. 2009; 10(1): 78-83.

