RECURRENT OGILVIE'S SYNDROME AFTER SPONTANEOUS INTRACEREBRAL HEMORRHAGE: A RARE BUT POSSIBLE FATAL ASSOCIATION

Sergio Brito[*,1], **Mariana Martins**[*], **Catarina Faria**[*], **Hugo Moreira**[*], **Nuno Ferreira**[*△], **Teresa Mesquita**[*△] **and Luis Campos**[*△]
[*]Department of Internal Medicine, Hospital São Francisco Xavier, Occidental Lisbon Hospital Centre, Portugal., [△]Stroke Unit, Hospital São Francisco Xavier, Occidental Lisbon Hospital Centre, Portugal.

ABSTRACT Ogilvie's syndrome is a rare condition characterized by acute colonic dilatation in the absence of mechanical obstruction. It usually occurs in hospitalized patients with severe illness, but it is rarely associated to strokes. We report a case of a 61-years-old male with spontaneous intracerebral hemorrhage complicated with recurrent episodes of Ogilvie's syndrome. In this case, the main keys are local and systemic consequences and implications of recurrences in the final outcome.

KEYWORDS Ogilvie's syndrome, intracerebral hemorrhage, stroke

INTRODUCTION

Ogilvie's Syndrome (OS) or acute colonic pseudo-obstruction is a rare condition characterized by acute colonic dilatation in the absence of mechanical obstruction [1,2]. It usually occurs in hospitalized patients with severe illness, trauma, after surgical procedures or neurological conditions, with an estimated incidence of 100 cases per 100000 admissions and a mortality rate of 8% [1-5]. The pathophysiology remains uncertain, but autonomic imbalance and intrinsic colonic dysfunction are strongly supported pathophysiological contributors in the impaired/altered colonic motility that leads to distal obstruction and proximal dilatation [3].OS is usually transient and relieves with a conservative approach [6]. Colonic ischemia or perforation are the main complications, and it occurs in up to 15% with a high mortality rate [3,6].

DOI:10.5455/IJMRCR.Recurrent-Ogilvies-Syndrome-after-spontaneous-intracerebral-hemorrhage
First Received: March 01, 2020
Accepted: March 12, 2020
Manuscript Associate Editor: Ivan Inkov (BG)

[1]Department of Internal Medicine, Hospital São Francisco Xavier, Occidental Lisbon Hospital Centre; Estr. Forte do Alto Duque, 1449 005 Lisboa, Portugal;
Email:sergioembrito@gmail.com

CASE REPORT

A 61-year-old male was admitted to the Emergency Department with ictal dysarthria, left homonymous hemianopsia, hemiplegia and anaesthesia, scoring a National Institutes of Health Stroke Scale (NIHSS) of 20 and Glasgow Coma Scale (GCS) of 14. His medical history included arterial hypertension without treatment or follow-up. The head computed tomography (CT) scan revealed a right lenticulocapsular nucleus hemorrhage (Figure 1). Consequently, the patient was admitted to the Stroke Unit. Due to refractory hypertension, labetalol and isosorbide dinitrate infusion were begun. Oral antihypertensive therapy with perindopril, bisoprolol, nifedipine and methyldopa was progressively increasing between 24 and 72 hours until blood pressure control was achieved. Laboratory study showed albuminuria (1000mg/day) and a glomerular filtration rate (GFR) of 76 ml/min/1.73m2 due to acute hypertensive nephropathy, probably superimposed on a previous undiagnosed hypertensive kidney disease. On the night of the 5th day at the Stroke Unit, despite an initial neurological improvement, the patient clinical condition deteriorated as he becomes constipated and oliguric.

In the next morning, he had a decreased level of consciousness (GCS 9), severe abdominal distension and hypoactive bowel sounds. He was anuric, hypotensive and with increased intra-abdominal pressure (maximum 28cmH2O – 20,6mmHg). Laboratory tests showed acute kidney injury (seric creatinine up to two times baseline values), hyperphosphatemia, hypermagnesemia and hyperlactacidemia, without acidemia or other ionic changes. The abdominal CT scan revealed generalized colic

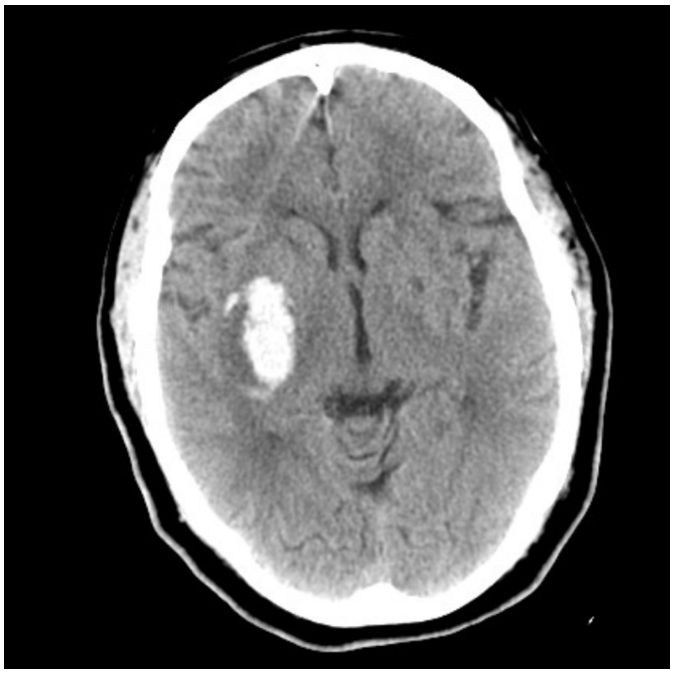

Figure 1: Head CT image with intracerebral hemorrhage (right lenticulocapsular nucleus).

distension, more evident in the cecum (diameter 104mm), without mechanical obstruction or signs of complications such as ischemia or perforation (Figure 2). Additionally, the abdominal ultrasound presented the inspiratory collapse of the inferior vena cava. Abdominal compartment syndrome was diagnosed due to Ogilvie´s syndrome (OS). Supportive therapy was initiated with intravenous fluid therapy, nasogastric and rectal tube insertion without improvement. Therefore, treatment with neostigmine was carried out with resumption of intestinal transit, intra-abdominal pressure decrease, improvement of the hemodynamic status and spontaneous diuresis recovery.

In the following 24 hours, the intra-abdominal pressure dropped to 13 cmH2O and the patient presented with neurological and renal improvement.

On the 8th day, there was a recurrence of his condition (severe abdominal distension, anuria and hypotension). The patient repeated an Abdominal CT, which did not show signs of ischemia or perforation. Pharmacologic treatment with neostigmine was resumed, and the patient was transferred to the Intensive Care Unit (ICU) to start renal replacement therapy.

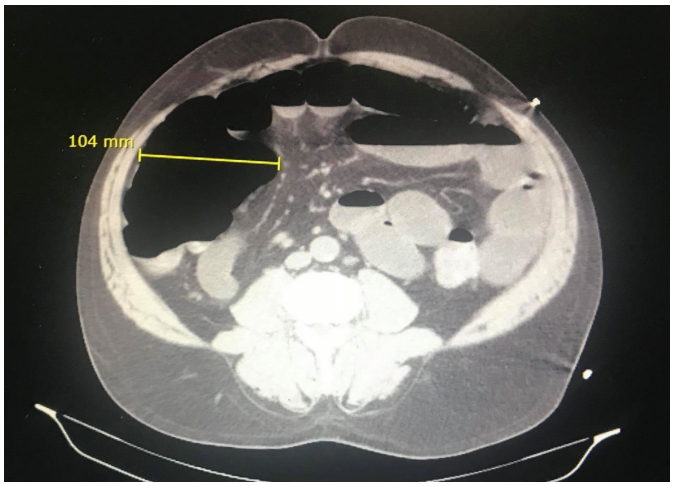

Figure 2: Abdominal CT image with generalized colonic distension, more significant in the cecum.

At the Intensive Care Unit, he presented three recurrences which were treated with decompressive colonoscopy and neostigmine.

On the 13th day, after clinical, hemodynamic and renal improvement, the patient was transferred to the Internal Medicine Department. Since he had a severe functional dependence, it was repeated a Head CT scan which showed no signs of new or worsened cerebral hemorrhage or another cerebral injury. He performed a rehabilitation program with poor progression.

On the 21st day, there was a new recurrence with severe neurological (GCS 3), hemodynamic and renal deterioration. Conservative approach was tried without any effect. The clinical case was discussed with the Surgery Department and it was decided not to proceed to surgery given the severe functional dependence caused by intracerebral hemorrhage and the high surgical risk of the procedure. Palliative care measures were then implemented. The death occurred on the 22nd day of hospitalization.

DISCUSSION

Ogilvie's Syndrome or acute colonic pseudo-obstruction is characterized by acute colonic dilatation in the absence of mechanical obstruction [1,2]. It usually occurs in severely ill patients, associated with underlying conditions [2,3]. Neurological dysfunction, such as Parkinson's disease, spinal cord injury, multiple sclerosis and dementia, account for 9% of OS cases, with rare cases attributed to ischemic stroke or intracerebral hemorrhage [4,5]. The effect of stroke in colonic autonomic innervation is unclear. However, the cerebral injury seems to trigger a reduction in the autonomic activity, mainly if the injury is on a subcortical or right cerebral hemisphere localization [4,5].

In addition to the intracerebral hemorrhage, our patient presented with two other potentiating factors for OS: the renal disease (albuminuria and GFR < 90mL/min/1.73m2) and the antihypertensive treatment administrated (highlighting nifedipine). Chronic stress conditions such as chronic renal disease and medication like anticholinergics, opiates and calcium channel blockers, seem to impair the autonomic regulation and to decrease gut motility thus increasing the risk of OS [3,7]. Furthermore, the acute colonic distension caused an abdominal compartment syndrome, that led to acute kidney injury and shock, which contributed to clinical deterioration.

OS is usually transient and relieves with a conservative approach [6]. Supportive therapy is the first medical approach that solves more than half of the cases [6]. In the remaining cases, pharmacological management with neostigmine, an acetylcholinesterase inhibitor that increases colonic contractility, and mechanical management with colonoscopic decompression have a high success rate [6]. As all previous treatments fail or in cases of complication, surgical intervention may be necessary, with an important risk of complications and mortality [6]. In our patient, despite improving with the conservative approach in the first OS events, in the last recurrence, it was refractory to this approach. The poor functional prognosis and important risks of the surgical intervention made us discard this treatment. Therefore, we consider that intracerebral hemorrhage and subsequent neurological injury caused a severe and probably permanent colonic

autonomic dysfunction which enhanced by the simultaneous comorbid features, led to the fatal outcome.

CONCLUSION

Ogilvie's syndrome is a rare complication attributed to stroke. Subcortical or right cerebral hemisphere injuries seem to be more prone to autonomic dysfunction. The recurrence of Ogilvie's syndrome is possible a predictor of poor outcome.

ABBREVIATIONS

- CT – computed tomography;
- GCS - Glasgow Coma Scale;
- GFR - glomerular filtration rate;
- ICU - Intensive Care Unit;
- NIHSS - National Institutes of Health Stroke Scale;
- OS - Ogilvie's syndrome

DISCLOSURE STATEMENTS

There were no financial support or relationships between the authors and any organization or professional bodies that could pose any conflict of interests.

COMPETING INTERESTS

Written informed consent has been obtained from the patient for publication of this case report and any accompanying images.

REFERENCES

1. Ogilvie H. Large-intestine colic due to sympathetic deprivation; a new clinical syndrome. Br Med J 1948; 2: 671-673.

2. Vanek VW, Al-Salti M. Acute pseudo-obstruction of the colon (Ogilvie's syndrome) An analysis of 400 cases. Dis Colon Rectum 1986; 29: 203-210.

3. Wells CI, O'Grady G, and Bissett IP. Acute colonic pseudo-obstruction: A systematic review of aetiology and mechanisms. World J Gastroenterol 2017; 23(30): 5634–5644.

4. Barron SA, Rogovski Z, Hemli J. Autonomic consequences of cerebral hemisphere infarction. Stroke, 1994; 25:113–6.

5. Wanklyn PD, German A. A case of refractory Ogilvie syndrome following a haemorrhagic stroke. Clin Med (Lond) 2013; 13(6): 623–624.

6. Jain A, Vargas D. Advances and challenges in the management of acute colonic pseudo-obstruction (Ogilvie Syndrome). Clin Colon Rectal Surg 2012; 25: 37–45.

7. Jain V, Pitchumoni CS. Gastrointestinal side effects of prescription medications in the older adult. J Clin Gastroenterol 2009; 43(2):103-10