Urinary infection due to *Chryseobacterium* indologenes

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To the Editor:

Chryseobacteria are a group of gram-negative, non-fermenting, non-motile, catalase, oxidase and indole positive aerobic bacilli. *C. meningosepticum* is the most pathogenic, while *C. indologenes* is the most common, and is generally isolated in immunocompromised patients.[1,2]

We report the case of an 86-year-old female with insulin-dependent type 2 diabetes, of over 20 years' progression, with diabetic nephropathy and retinopathy, high blood pressure, also with long progression and obesity. Stage 4 chronic kidney disease, with non-nephrotic proteinuria. Urinary infection due to *E. coli* in April 2010. She was admitted to hospital due to symptoms of decompensated congestive heart failure, associated with worsening of renal failure, sacral oedema and probable respiratory infection. She was started on diuretic and fluid management. Urine culture was performed and an increase of >100,000CFU/ml of ESBL carrying *Escherichia coli* and *Chryseobacterium indologenes* are found. The patient was being treated empirically with levofloxacin (with doses adjusted according to renal function) and did not display fever or haemodynamic instability, with a good clinical progression and a return to her baseline creatinine figures.

Chryseobacterium indologenes is found in soil, plants, food, fresh water, salt water and drinking water (it resists chlorination), but despite its extensive distribution in nature, it is not a part of the normal human microflora. In hospitals, it is isolated in water systems and surfaces of equipment and humid medical supplies (ventilators, tubes, humidifiers and others).[2] It is not very pathogenic, although it forms a biofilm and produces a protease that may be important in its virulence.[3,4] *In vitro*, its colony is circular, smooth, mucous and 1-2mm in diameter. The study of susceptibility is not standardised, and as such, antibiograms should be performed by dilution. It produces a metallo-β-lactamase that provides resistance to carbapenems. The most effective antimicrobials are levofloxacin, trimethoprim/sulfamethoxazole and piperacillin/tazobactam (>90% susceptibility). Ciprofloxacin, cefepime and ceftazidime show an activity level of around 85%; aminoglycosides, other β-lactams, chloramphenicol, linezoid and glycopeptides are not usually effective.[1,3]

Although it is an uncommon germ, it must be considered as an uncommon cause of bacteraemia, especially in patients with invasive medical devices, immunocompromised patients (including diabetics) and patients with previous broad-spectrum antibiotic treatment.[4,5] Since it is a Beta-lactamase producer and presents multiple resistances to very strong antibiotics, empirical antibiotic therapy may not cover this bacillus. More epidemiological studies are required to explain the transmission mechanism and develop effective preventive measures.[1,2]

Conflicts of interest

The authors declare that they have no conflicts of interest related to the contents of this article.

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Chronic renal failure secondary to systemic amyloidosis associated with gastrointestinal stromal tumour

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To the Editor:

The deposition of the protein SAA (serum amyloid A) is responsible for systemic amyloidosis, which is sometimes associated with certain neoplasias.[1] The association between amyloidosis and gastrointestinal stromal tumour (GIST)[2] is extremely rare and only two cases have been reported.[3,4]

CASE REPORT

We report the case of a 64-year-old male with no relevant history, who sought treatment due to loss of 17kg, asthaenia, anorexia and

anaemia. A colonoscopy was performed, showing unspecific inflammatory changes of the colonic mucosa, and a gastroscopy was performed, revealing a gastric neoplasia and antral gastropathy of which biopsies were taken. The gastric biopsy histology confirmed a neoplastic proliferation with solid pattern suggestive of GIST, and the immunohistochemistry was positive for CD117. AA amyloid deposits were observed in biopsies of the gastric mucosa, the tumour and the colonic mucosa.

The patient subsequently showed lower limb oedema and diarrhoea. The analytical tests showed: haemoglobin 8.7g/dl, haematocrit 28%, mean corpuscular volume 75, serum creatinine 1.3mg/dl, total protein 5.9g/dl, albumin 1.36g/dl, cholesterol 96mg/dl, transferrin saturation index 13%, proteinuria 5.1g/day and sediment with 4-6 red blood cells/high power field. Given the poor condition of the patient, renal biopsy was not performed and it was assumed that amyloidosis previously observed in gastrointestinal biopsies was responsible for the nephrotic syndrome and diarrhoea. Cardiac amyloidosis was excluded by echocardiogram.

Treatment was initiated with 100mg/day of selective cKit tyrosine kinase inhibitor, Imatinib (Glivec®). 15 months after diagnosis, surgical removal was decided after observing a reduction in the tumour mass in the study by positron emission tomography/computerised tomography. The pathological anatomy confirmed the involvement of the removed splenic flexure of the colon and stomach. In this regard, it was classified as a high-risk GIST (>5cm in size, >5 mitosis per high power field).[2]

Renal function continued to deteriorate, and as such, the patient finally began periodic haemodialysis, one year and seven months after the discovery of GIST with the diagnosis of chronic renal failure secondary to AA amyloidosis.

DISCUSSION

Amyloidosis is characterised by the deposition of proteinaceous material, which typically has a fibrillar ultrastructure with beta folding, making it insoluble and resistant to proteolytic enzymes. Depending on the fibrillar protein that is deposited, several forms can be distinguished.[1]

In secondary amyloidosis, the fibrillar protein amyloid A, derived from the precursor serum A (SAA) is deposited, which acts as an acute phase reactant. It is induced by chronic inflammatory diseases such as rheumatoid arthritis and the familial Mediterranean fever or some infections, such as tuberculosis or osteomyelitis. Neoplasias are also an uncommon cause of systemic amyloidosis, especially in renal cell carcinoma or Hodgkin's disease.[1,5,6]

GIST constitutes less than 1% of tumours of the digestive system. The most common location is the stomach, but it can be found throughout the entire gastrointestinal tract and adjacent organs. Most have a mutation in the proto-oncogene cKIT (CD117), whose detection confirms diagnosis. Specific inhibitors against the latter have become first-line drugs as coadjuvants to surgery or for tumours that are unresectable due to their extensive proliferation.[2]

The link between GIST and amyloidosis was initially described by Jaakkola et al.[3] in a 59-year-old male with normal renal function who presented with a pelvic mass, whose histopathology coincided with that of a GIST. Three months later, he displayed renal function deterioration and began periodic haemodialysis. AA amyloidosis was found in the renal biopsy. Later, Overstreet et al.[4] described the case of a 69-year-old male who was diagnosed with a GIST, with amyloid deposits in the spleen, adrenal glands and liver.

Both cases involved a GIST with high mitotic index and large size. Perhaps this is associated with an increased cytokine-mediated inflammatory response and therefore an increased production of SAA protein as an acute phase reactant. Similar hypotheses have been suggested in other cases of amyloidosis linked to tumours. Thus, for example, it is believed that the secretion of interleukin-6 in the germinal centres of lymph nodes could stimulate the synthesis of SAA and be involved in secondary amyloidosis in Castleman's disease.[5] However, the pathophysiology of the association with GIST is yet to be studied due to its rarity.

In conclusion, GIST is an extremely rare cause of secondary amyloidosis that can result in rapidly progressive renal failure that requires renal replacement therapy within a few months. Perhaps a more thorough study of the pathophysiology linking these two entities would open the way for the development of more effective therapeutic tools.

Conflicts of interest

The authors declare that they have no conflicts of interest related to the contents of this article.

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