whom must be taken into account as responsible of infections in patients with hemodialysis catheters. To ensure the eradication of these microorganism, it would be advisable to remove the intravascular dispositive

REFERENCES

1. Hiessl S, Schuldes J, Thürmer A, Halbsguth T, Bröker D, Angelov A, et al. Involvement of two latex-clearing proteins during rubber degradation and insights into the subsequent degradation pathway revealed by the genome sequence of *Gordonia polyisoprenivorans* strain VH2. Appl Environ Microbiol. 2012;78:2874–87.
2. Blanc V, Dalle M, Markarian A, Debunne MV, Duplay E, Rodriguez-Nava V, et al. *Gordonia terrae*: a difficult-to-diagnose emerging pathogen? J Clin Microbiol. 2007;45:1076–117.
3. Ramanan P, Deziel PJ, Wengenack NL. Gordonia bacteremia. J Clin Microbiol. 2013;51:3443–7.
4. Hart DH, Peel MM, Andrew JH, Burdon JG. Lung infection caused by Rhodococcus. Aust N Z J Med. 1988;18:790–1.

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Myasthenia gravis after kidney transplantation☆

Miastenia gravis posterior a trasplante renal

Dear Editor,

Muscle weakness is a symptom that can be explained by the impaired function of: muscle, peripheral nerves, central nervous system or neuromuscular junction.[1] When first examining it, it is essential to document a reduction of muscle strength and to define the location of the lesion and its cause, which may be inflammatory, infectious, genetic, metabolic, autoimmune, neoplastic or toxic. Myasthenia gravis (MG) is part of the spectrum of diseases affecting the neuromuscular junction and occurs very rarely during the kidney post-transplantation period.[2]

We report the case of a 29-year-old woman, diagnosed with idiopathic terminal chronic kidney disease, requiring renal replacement therapy for 6 years. Transplantation with a kidney from a deceased haploidentical donor was performed on 11 January 2010. The patient received induction therapy with alemtuzumab and maintenance therapy with cyclosporine, azathioprine and prednisone. One year later the patient came to hospital complaining of persistent muscle weakness in the legs, with frequent falls and occasional reduction of upper arm strength. Subsequently, in the course of a urinary infection treated with ciprofloxacin, she presented with vertical diplopia, respiratory distress and dysphagia for solids. She was hospitalised in the Intensive Care Unit due to the risk of respiratory failure. Neurological examination revealed facial diplegia, 1/5 neck flexor strength, 4/5 strength in the 4 proximal extremities and 5/5 distal extremity strength. For the suspected diagnosis of myasthenic syndrome, tests were performed confirming the diagnosis of MG (Table 1). MG was treated with 5 sessions of plasmapheresis and with pyridostigmine, with favourable progression. At the 5-year follow-up, the patient's renal function is adequate and her performance status is normal with the use of pyridostigmine.

MG is a B-lymphocyte-mediated autoimmune disease that produces antibodies against the acetylcholine receptor (AChR). It is characterised by muscle weakness that is triggered by repetitive activity and which improves with rest and cold.[2,3] It frequently starts with paresis of the extraocular muscles, which may be isolated or accompanied by bulbar symptoms with dysphagia and dysarthria, respiratory distress due to paresis of muscles of the rib cage and escalation to limb muscles.[1,2] For the diagnosis, it is very important to determine AChR antibodies, which are found in up to 85% of cases, and to perform a neurophysiological study with a repetitive stimulation test and a single-fibre test.[2,3]

Multiple triggers are responsible for the onset or escalation of the disease[4]; however, myopathic change (MC) is the first manifestation of the disease in up to 8% of patients, with no apparent cause.[3] In the case reported, the clinical symptoms began acutely as a proximal strength loss, which progressed to respiratory failure. However, it is striking

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Table 1 – Imaging studies and electromyography.

Electrophysiological studies and images	Result
Electromyography and Lambert–Eaton myasthenic syndrome test	Non-inflammatory myopathic changes in the proximal musculature of the lower and upper limbs. No evidence of peripheral neuropathy or the neuromuscular junction (repetitive stimulation test)
Single-fibre electromyography	Pattern of neuromuscular disease
Brain MRI	Normal
Simple and contrast-enhanced chest CT scan	Without presence of the thymus, without masses
Echocardiogram	Normal LVEF 65%
Fibrobronchoscopy	Normal
Muscle biopsy of the lower right limb	Denervation changes. Without atrophy or dystrophy

LVEF: left ventricular ejection fraction; CT: computerised axial tomography.

that this occurred while the patient was receiving immunosuppressive therapy, without other clear triggers, except for a urinary infection that was controlled early on. MC is a scenario that requires aggressive management because it represents severe clinical forms with acute bulbar involvement and a high risk of respiratory failure without response to conventional treatments. Intravenous immunoglobulin and plasmapheresis are the therapies of choice in these cases, and both are adequately effective in restoring strength. Therefore, choosing between them depends on the profile of adverse effects, comorbidities, availability and hospital setting.[2,3,5] The preferred drug for symptomatic management is pyridostigmine; its response is a useful diagnostic tool in patients with negative antibodies. Our patient presented with MC that responded very well to plasmapheresis and maintenance therapy with pyridostigmine. In addition, the immunosuppression she received for her transplant likely helped to control the disease, since anti-calcineurin drugs, azathioprine and steroids are reported in the literature as useful treatments for this disease.[2,6–9]

The literature includes 2 reports on MG after kidney transplantation: Hwang[5] describes MC 3 days after kidney transplantation attributed to perioperative stress, while O'Reilly[10] reports an early MC after kidney transplantation attributed to cyclosporine, which is controversial since this drug is useful for treating MG, and there were many other peri-transplantation factors that could explain it.

In our case, we did not find any correlation between MG and alemtuzumab, which the patient received a year before presenting with MG as an induction therapy in renal transplantation, or between MG and immunosuppressive maintenance therapy. An association between MG and kidney transplantation is therefore unlikely, and so we conclude that our cases was an epiphenomenon.

The relationship of MG after a solid organ transplantation is not clear, but many perioperative and postoperative factors may be associated with the onset of the disease. There are conditions that are preventable and only clinical judgement and strict monitoring can allow for early suspicion for a timely diagnosis and treatment of a condition that can be fatal.

Conflicts of interest

The authors declare that there are no conflicts of interest.

REFERENCES

1. Bucelli R, Harms MB. Neuromuscular emergencies. Semin Neurol. 2015;35:683–9.
2. Gilhus NE, Verschuuren JJ. Myasthenia gravis: subgroup classification and therapeutic strategies. Lancet Neurol. 2015;14:1023–36.
3. Berrih-Aknin S, Frenkian-Cuvelier M, Eymard B. Diagnostic and clinical classification of autoimmune myasthenia gravis. J Autoimmun. 2014;4:8–49, 143–8.
4. Chris Turner. A review of myasthenia gravis: pathogenesis, clinical features and treatment. Curr Anaesth Crit Care. 2007;18:15–23.
5. Hwang IH, Lee KN, Kim IY, Lee DW, Lee SB, Kim DS, et al. Myasthenic crisis after a renal transplant successfully treated with intravenous immunoglobulin. Exp Clin Transplant. 2014;12:555–8.
6. Lavrnic D, Vujic A, Rakocevic-Stojanovic V, Stevic Z, Basta I, Pavlovic S, et al. Cyclosporine in the treatment of myasthenia gravis. Acta Neurol Scand. 2005;111:247–52.
7. Yoshikawa H, Mabuchi K, Yasukawa Y, Takamori M, Yamada M. Low-dose tacrolimus for intractable myasthenia gravis. J Clin Neurosci. 2002;9:627–8.
8. Evoli A, Di Schino C, Marsili F, Punzi C. Successful treatment of myasthenia gravis with tacrolimus. Muscle Nerve. 2002;25:111–4.
9. Cruz JL, Wolff ML, Vanderman AJ, Brown JN. The emerging role of tacrolimus in myasthenia gravis. Ther Adv Neurol Disord. 2015;8:92–103.
10. O'Reilly S, Walshe E, Breathnach A, Keogh JA, Reilly M, Hutchinson M. Myasthenia gravis associated with cyclosporin treatment. Nephrol Dial Transplant. 1992;7:455.

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Blanket orders, an unadvisable practise, yet more and more frequent☆

Blanket orders, práctica desaconsejada pero cada vez más frecuente

Dear Editor,

One concern in relation to drug safety is to reconcile the patient's treatment when changing to another healthcare area. There are reports showing that hospital admissions and transfers to different hospital services or hospital discharges are a cause of error in the treatment medication.

The process of conciliation of the treatment at discharge includes a double supervision. Both, the list of drugs that the patient was taking prior to admission and the drugs prescribed during admission must be conciled to obtain a single list. Generic orders or instructions, such as "resume usual medication", "continue the usual treatment" or "maintain the same treatment", known as *blanket orders*,[1,2] are not acceptable.

We have assessed the magnitude of *blanket orders* in our department, how it has been evolving and associated variables. To that effect, we performed a retrospective analysis of hospital discharges and outpatient reports issued at our hospital's Department of Nephrology from 2006 to 2014. The following variables were collected: date of the report, author, days of admission, age and gender of the patient, presence of multiple pathologies (4 or more diseases), renal replacement therapy (dialysis), use of and the type of *blanket order*. Our hospital does not have computerised medical records, clinical reports are the only tool available to clinicians to report therapeutic changes.

During the period of evaluation, 2358 clinical reports were issued at our department. After excluding deceased patients ($n = 61$), the number of reports analysed for this study dropped to 2297. Of these, 1190 were hospital discharges (50.5%). Fifty-five per cent (55%) of the patients were male, 68.3% had multiple pathologies and 26% were on dialysis. *Blanket orders* were used in 50.2% of the cases (1153), with a greater frequency in hospitalised patients than in outpatients (53.1% vs. 47.1%; $p = 0.004$). The types of *blanket order* found were: "continue the usual treatment" in 65% (751); "as indicated at the time of discharge" in 27.4% (316); "rest of medication as prescribed by another specialist" in 4.16% (48); and other *blanket orders* in 3.2% (37). The percentages of *blanket orders* increased over the years (37.5% in 2006 compared with 57.8% in 2014, $p = 0.0001$), but were not influenced by the month issued, nor by the patients' age or gender. On the contrary, *blanket orders* were more frequent in patients with multiple pathologies (55.3 vs. 38.1%, $p = 0.000$), in patients on dialysis (64.8 vs. 44.9%, $p = 0.000$) and in patients admitted for a short periods of time (mean ± SD) (6.98 ± 6.29 vs. 10.25 ± 8.23 days; $p = 0.0001$).

Blanket orders are used in almost half of the clinical reports and the data indicate that, far from diminishing, this practice is progressively more frequent. It is not surprising that *blanket orders* are more common in patients with brief hospital stays and multiple pathologies, in whom therapeutic conciliation is more complex and requires greater effort. Although medical records are not computerised, we do have a follow-up programme for patients on dialysis, which would explain the existence of a high percentage of *blanket orders* in these patients (possibly by giving them a copy of the software without transcribing such treatment in the discharge report).

The use of *blanket orders* is a practice that should be eliminated. In fact, they are explicitly prohibited by the JCAHO's Medication Management Standard MM 3.20.[3] The existence of this type of order immediately shows that the conciliation of treatment was not done. In 2006, the JCAHO added the requirement of giving to patients the reconciled medication list at discharge, written in appropriate and understandable language.[4]

We hope that in the future new computer tools will help to improve this type of care; however, awareness of this issue by all professionals will continue to be essential.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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