PATIENTS WITH MULTIPLE SCLEROSIS TREATED WITH HIGH DOSES OF BIOTIN: PREVENTION OF SIGNIFICANT BIOLOGICAL EXAMINATION DISTURBANCES BY HOSPITAL PHARMACISTS

1B Racle, 2B Hue, 3C Lebert, 4B Trousseau, 5P Le Corre, 6V Gicquel. 1Service de Pharmacie et Laboratoire de Biopharmacie et Pharmacie Clinique, Hôpital Pontchaillou, CHU de Rennes et Faculté de Pharmacie, Rennes; 2Service Pharmacie, Hôpital Pontchaillou, Rennes

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Background Biotin at high dose (300 mg/d) is used in primary or secondary forms of multiple sclerosis (MS) (temporary use authorisation in France). Some biological tests are biased by this treatment, including immunoassays using biotin as a reagent. The results are likely to be overestimated for competitive assays (eg thyroid hormones) and underestimated for immunometric assays (eg thyroid-stimulating hormone).

In 2007, the Agence Nationale de Sécurité du Médicament-drew the attention of biologists and hospital directors. Pharmacists, despite their primary role in patient care, have been forgotten.

Purpose This work presents the organisation established by the hospital pharmacy in collaboration with neurologists, biologists and the patients.

Materials and methods Three types of actions have been established:

- Neurologists report to the pharmacist the initiation of treatment by biotin at high dose.
- Pharmacists update a shared file of patients with biologists.
- Biologists integrate this information into validation software in order to neutralise biotin in the serum before assaying.

Outpatients are informed during the drug dispensation and receive a card entitled ‘patient treated with high dose biotin’ to present to all health professionals. All pharmacist who can deliver biotin have been trained.

Results A series of 52 patients were monitored in our establishment on 1 October 2018.

This initiative enabled us to sensitise the different stakeholders to this problem: retrospectively, disturbed thyroid hormone dosages results were found. The literature also cites false normal values of troponinemia in the context of myocardial infarction and low-dose disturbances (15 mg/d). This collaborative work must enable the avoidance of this type of error.

Conclusions The central role of hospital pharmacists at the interface between patients, prescribers and biologists has been essential in establishing a strategy to limit biological interference. The verbal exchange between the patient and medical team remains one of the best means of prevention. The regional association of MS patients has also been contacted to relay this entire device to other facilities. General practitioners and pharmacists should also be warned. This information relay reinforces the importance of reasoning on the entire ambulatory-hospital pathway, especially since an extension of the indications is envisaged.

REFERENCES AND/OR ACKNOWLEDGEMENTS

None