Background The launch on the market of a new drug is always an important event for a specialty, particularly when the mechanism of action is completely new. It is the case with sugammadex, a cyclodextrin, the first selective relaxant binding agent. It binds and holds within its lipophilic core only the non-depolarizing steroidal muscle relaxants rocuronium and vecuronium. This novel agent acts ten times more rapidly than neostigmine without the need to administer atropine concomitantly.

Purpose To determine how the arrival of sugammadex has changed the management of neuromuscular blockade in everyday practice and to evaluate the additional cost caused by the use of this drug in all the hospital departments and especially in the department of anaesthesia.

Materials and Methods We conducted a retrospective study over two years’ use of sugammadex from January 2010 to December 2011. All the consumption data were extracted from the PHARMA software.

Results During the period of the study, the use of rocuronium increased by 110%, with an additional cost of about 47%, explained by the increase in surgery over 2011 (3%), and the increased use of sugammadex (+127%).

An additional cost (€70,092.84) due to the change in practice (neuromuscular block + recovery) was observed. It represents an average increase of 37.4% over all hospital departments.

In the department of anaesthesia, the use of rocuronium increased by 31% (+€2,055), but did not generate an increase in cost, because the use of other neuromuscular blocking agents (benzylisouquinolines and suxamethonium) decreased between 2010 and 2011.

The number of vials of neostigmine requested from the pharmacy decreased by 57%, while the number of vials of sugammadex increased by 102%.

The additional cost in this department was estimated at 25%; expenditure increased from €68,291.57 in 2010 to €85,354.63 in 2011, caused specifically by the change in neuromuscular block recovery practices.

These results agree with those of Raft et al., 2010, who proved that the increased expenditure was mainly due to the new neuromuscular block recovery practices (€656 to €28,225 between 2009 and 2010).

Conclusions The introduction of sugammadex into clinical practice joins a quality assurance programme, something new to improve patient safety. However, there are currently pharmacoeconomic barriers to the widespread introduction of sugammadex and further clinical trials will inform the debate concerning cost-effectiveness.

No conflict of interest.