REGIONAL CARD FOR THE PRESCRIPTION OF BOTULINUM TOXIN BY CLOSTRIDIUM BOTULINUM TYPE A: AN INSTRUMENT FOR APPROPRIATE PRESCRIBING

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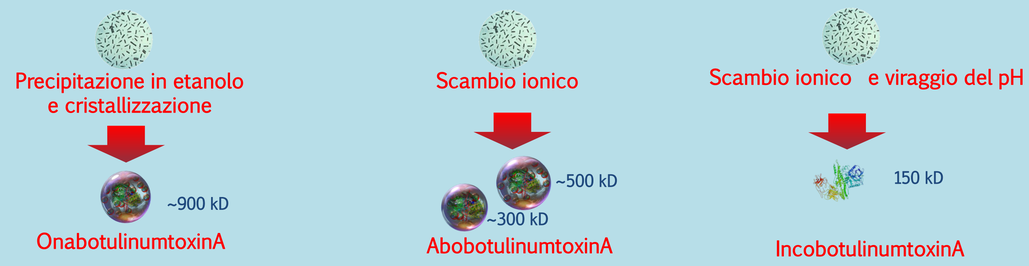
BACKGROUND

The international pharmaceutical research has led to conclusive evidence about the effectiveness of Botulinum Toxin in a very wide range of neurological disorders.
At present, in Italy, are commercialized three formulations containing Botulinic Toxin A (ATC M03AX01); these distinguish themselves for their biologic activities, estimated by each manufacturer with its own test lethality since there is an international standard .
All preparations of Botulinum Toxin are of biological origin, these differ in the strain or for the batch of Clostridium botulinum from which originates the cell culture and for the purification process. This implies that the three formulations of Botulinum Toxin have a different molecular weight and therefore have different pharmacokinetic and pharmacodynamic characteristics; for this they must be considered as biological preparations originator and then non-overlapping or interchangeable.



Furthermore, the three drugs differ for the therapeutic indications, as show in the following table:

Active Ingredient	Post-stroke Spasticity	Blefarospasm	Emifacial Spasm	Cervical Dystonia	Focal Dystonia	Equinus Foot in Cerebral Palsy	Axillar Hyperidrosis	Chronic Migraine	Urinary Incontinence of neuronic origin
Onabotulinumtossina A	X[1]	X	X	X	X	X	X	X	X
Abobotulinumtossina A	X[2]	X	X	X		X			
Incobotulinumtossina A	X[3]	X[4]		X					

1 Wrist and hand spasticity
2 Upper limb and lower limb spasticity
3 Flexed wrist and closed fist spasticity
4 Limited to the cervical dystonia indication of a predominantly rotational form (spasmodic torticollis)

REGIONE LAZIO
SCHEDA PRESCRIZIONE
TOSSINA BOTULINICA

Paziente	C.F.
Data di nascita ___/___/_____	Sesso M☐ F☐
Residenza	Domicilio
Diagnosi: patologia di base:	

U.O. Richiedente_____ Data_____
Farmaco:_____ Quantità richieste U:_____

Indicazioni terapeutiche registrate :
☐ Distonia Cervicale/Torcicollo Spasmodico
☐ Blefarospasmo
☐ Spasmo Emifacciale
☐ Distonie focali associate al blefarospasmo ed allo spasmo emifacciale
☐ Paralisi Cerebrale Infantile
☐ Spasticità Post Ictus
☐ Iperidrosi Ascellare
☐ Incontinenza urinaria in adulti con iperattività neurogena del detrusore della vescica
☐ Emicrania cronica
Indicazioni terapeutiche off-label consolidate – Lista AIFA farmaci neurologici (L.648/96)
☐ Spasticità
☐ Distonie focali e segmentarie
☐ Iperidrosi focale
☐ Disfunzioni Vescico-Uretrali di origine neurologica (somministrazione intravescicale)
☐ Sialorrea da cause diverse in pazienti pediatrici
☐ Trattamento sintomatico del morbo di Hirshsprung

Durata del ciclo terapeutico:_____
Intervallo di somministrazione:_____
Note prescrittive:_____

MUSCARI - INIEZIONE DI BOTULINICHE DI TIPO A

Indicazioni autorizzate	Distonia cervicale/ Torcicollo spasmodico	Blefarospasmo	Spasmo emifacciale	Distonie focali associate al blefarospasmo e ed allo spasmo emifacciale	Paralisi Cerebrale infantile	Spasticità post-ictus adulto	Iperidrosi ascellare	Incontinenza urinaria in adulti con iperattività neurogena del detrusore della vescica	Emicrania cronica
BOTOX®	SI	SI	SI	SI	SI	SI*	SI	SI	SI
DYSPORT®	SI	SI	SI	NO	SI	SI**	NO	NO	NO
XEOMIN®	SI	SI	NO	NO	NO	SI***	NO	NO	NO

* Spasticità del polso e della mano
** Spasticità dell'arto superiore ed inferiore
***Spasticità del polso flesso e pugno chiuso

Medico Richiedente_____
Telefono_____
Firma e Codice_____

(vers.3_aggiornata al 30/04/2013)

MATERIAL AND METHODS

The drug prescription form of Botulinum Toxin involves filling of some fields such as data, diagnosis, drug, dose, duration of treatment cycle and the interval of administration.
The delivery of BT occurs after verifying the appropriateness and adequacy of the regional boards, then the data contained in the form (diagnosis, drug, dose , duration of the course of therapy, dosing interval , prescriber) are inserted in a worksheet and access then processed.
The reference period is the year 2012.

PURPOSE

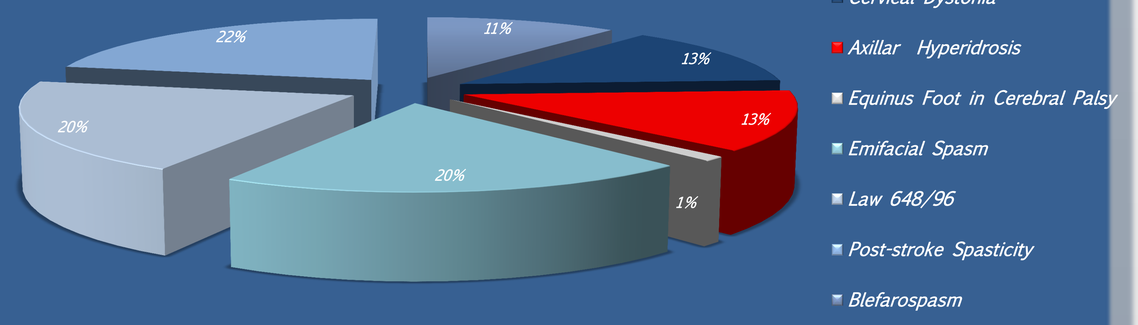
In order to promote the proper use of this class of drugs , the regional policy maker in Lazio Region arranged a drug prescription form of Botulinum Toxin in accordance with the indications of the data sheet.
The aim of our study was to ensure compliance with regional and check the appropriate prescription of Botulinum Toxin , ensure the puntual drafting of regional boards and to conduct a study of botulinum toxin farmacoutilizzation nell'A.C.O. San Filippo Neri.

RESULTS

During the period under analysis 213 patients were treated with Botulinum Toxin, of these 57.28 % are women. The age distribution is very wide, ranging from 17 to 90 years, although the most representative cluster are between 60 and 70 years (25%) and between 70 and 80 years (22 %).

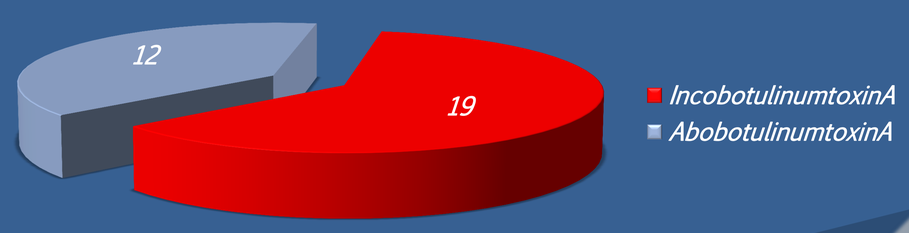
Range of age (years)	Number pz	%
<25	5	2%
>85	11	5%
25-30	9	4%
30-35	5	2%
35-40	9	4%
40-45	26	12%
45-50	5	4%
50-55	20	9%
55-60	11	5%
60-70	54	25%
70-80	48	22%
80-85	18	8%

The majority of the patients were treated with OnabotulinumtoxinA (82%) and this is foreseeable, as it is the only one, among the three available Botulinum Toxins, having all the clinical indications described in the drug prescribing form; the remaining part is equally shared among the other two toxins.
As regards the distribution of the disease 22% of the patients shows post-stroke spasticity, 20% spasticity (regulated by Law 648/96) and 20% emifacial spasm .



APPROPRIATENESS AND THERAPEUTIC SWITCH

During the period of analysis there is a single inappropriate prescribing of IncobotulinumtoxinA in the treatment of the hemifacial spasm.
The biggest obstacle for clinicians is the interpretation of the Law 648/96, that identify which Botulinum Toxin should be prescribed and for what specific diagnosis.
From our study it was found that 31 patients treated with therapeutic OnabotulinumtoxinA have had a switch, of which 19 to IncobotulinumtoxinA and 12 to AbobotulinumtoxinA.
A patient being treated with therapeutic IncobotulinumtossinaA had a switch to AbobotulinumtoxinA.



In order to verify the adherence of the neurologists in filling the appropriate prescription form we linked access database with File-F record: there is an overlap of the two archives in 100% of cases.

CONCLUSIONS

The software that we utilized for recording and analyzing the regional prescription form of Botulinum Toxin allowed us to screen any aspect of the prescription and to verify the impact of any single clinical indication of the drug. It allows the hospital pharmacist to support the clinician in multidisciplinary management of the patient.
In addition, the future goal is to draw up guidelines for the correct application of the Law 648/96 in the neurological area and check on what rational switches were made in consideration of the non-interchangeability of Botulinum Toxin, all in order to guide the clinician an ever-increasing prescription appropriateness.

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