

A. TRICOTEL<sup>1</sup>, S. MIRANDA<sup>1</sup>, M. ZUREIK<sup>1</sup>

1. French National Agency for Medicines and Health Products Safety (ANSM), Health Product Epidemiology Department, Saint-Denis, France  
No relationships to disclose

## BACKGROUND

Systemic isotretinoin is a very effective drug for the treatment of acne. Given its safety profile including teratogenicity and potential psychiatric adverse events, isotretinoin should be reserved to severe acne unresponsive to systemic antibiotics. Its use and benefit-risk ratio are kept under close monitoring.

## OBJECTIVES

To assess the compliance with therapeutic indication and French guidelines, particularly the respect of second-line and duration of prior antibiotic treatment.

## METHODS

Subjects who filled reimbursements of oral isotretinoin from January 1<sup>st</sup>, 2007 to December 31<sup>st</sup>, 2012 were identified using EGB database, which is a representative sample of the population protected by the French National Health Insurance. Only subjects who filled at least 2 reimbursements of oral isotretinoin within a period of 3 months were considered for analysis.

Initiation of isotretinoin was considered when no oral isotretinoin prescription was previously filled during the study period (or during 2006 for initiations in 2007).

An appropriate antibiotic cure was defined as reimbursements of systemic doxycycline, lymecycline, minocycline and/or erythromycin, in a quantity corresponding to 3 months of treatment, within a 100 days-window in the year preceding isotretinoin initiation.

## RESULTS

Among 3,245 subjects initiating isotretinoin treatment, 2,684 (82.7%) have filled at least 2 reimbursements. Overall, initiations have decreased by almost 40% between 2007 and 2012. These were mostly prescribed by dermatologists (about 90%).

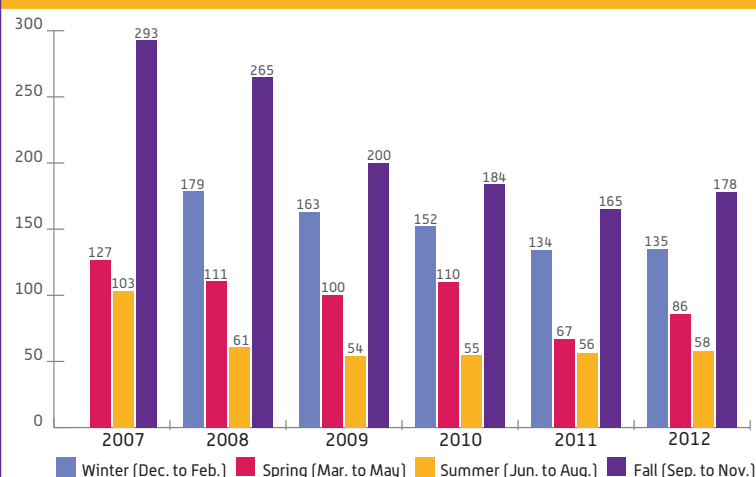
Men were more frequently treated (57.3%) and significantly younger than women at treatment initiation (median age of 18 vs. 26 years old).

As expected, most treatment courses of this photosensitizing drug began in autumn.

The use of antibiotics in the year before isotretinoin initiation was observed in about two thirds of the subjects (70.4% for dermatologists vs. 55.4% for general practitioners (GPs),  $p < 0.0001$ ). Among such initiations, the recommended duration of 3 months was only observed in 62.7% of the cases (62.0% for dermatologists vs. 52.9% for GPs,  $p < 0.05$ ).

Regardless of study year or prescriber's specialty, the recommendation of a 3-months cure of systemic antibiotic prior to isotretinoin initiation was not respected in more than half of the cohort.

**Figure 1. Distribution of isotretinoin initiations over the years and according to seasons**



**Table 1. Characteristics of isotretinoin treatment courses according to gender and to prescriber's specialty**

		Total (n = 2684)	Male (n = 1538)	Female (n = 1146)	Dermatologists (n = 2226)	GPs (n = 276)
Dispensations	Mean	5.9	5.9	6.0	6.0	5.1
	(Median)	(6)	(6)	(6)	(6)	(5)
Prescriptions	Mean	4.8	4.0	5.8	4.9	4.1
	(Median)	(4)	(4)	(6)	(5)	(4)
Duration (days)	Mean	195	196	194	199	171
	(Median)	(192)	(193.5)	(190)	(199)	(152)
Total dose (mg)	Mean	5856	5962	5714	6052	4617
	(Median)	(6000)	(6000)	(6000)	(6150)	(3900)

**Table 2. Proportion of isotretinoin initiations preceded by an appropriate 3-months antibiotic therapy**

	N	Total	Dermatologists	GPs
2007	620	40.2	43.1	25.3
2008	493	41.4	44.3	25.4
2009	419	35.3	35.7	32.5
2010	417	42.5	46.7	23.1
2011	359	44.6	45.0	39.0
2012	376	47.1	48.0	38.5

## CONCLUSION

Only about half of the patients initiating isotretinoin in France between 2007 and 2012 had a proper antibiotic cure before isotretinoin initiation. Communication on the appropriate conditions of use could be necessary, and particularly targeted to general practitioners.