

ESTIMATE OF THE NUMBER OF VENOUS THROMBOEMBOLISMS AND RELATED-DEATHS ATTRIBUTABLE TO THE USE OF COMBINED ORAL CONTRACEPTIVES IN FRANCE

A. TRICOTEL¹, F. RAGUIDEAU¹, C. COLLIN¹, M. ZUREIK¹

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

BACKGROUND

Women using combined oral contraceptives (COCs) are exposed to an increased risk of venous thromboembolic events (VTEs), particularly those using third- and fourth-generation COCs. In France, about four million women are daily exposed to COCs. Consequences of this large exposure needed to be assessed.

OBJECTIVES

To estimate the number of VTEs and related-premature deaths (i.e. mortality within 5 years due to recurrent VTEs, including immediate in-hospital lethality) attributable to the use of COCs in women aged 15-49 years between 2000 and 2011 in France.

METHODS

Exposure

Three sources of national data were combined to estimate the annual number of women exposed to COCs by age and by generation*:

- population census
- data from 2 cross-sectional surveys investigating contraception behaviours
- sales of COCs claimed to the ANSM.

Outcomes

- Absolute risk of first time VTE in non-users of hormonal contraception and increased risk of VTE in users (vs. non-users of hormonal contraception) were estimated from the literature.
- Immediate in-hospital lethality due to pulmonary embolism and premature mortality due to recurrent VTE were estimated from both national database of hospitalisation and literature data.

RESULTS

In France, from 2000 to 2011, the estimated mean annual number of VTEs attributable to COCs was 2529 (778 cases attributable to first-/second-generation COCs and 1751 to third-/fourth-generation COCs), corresponding to:

- 843 estimated cases of pulmonary embolism
- 20 premature deaths, including 8 to 9 immediate in-hospital deaths.

In 2011, higher VTE cases were observed in women aged 25-29 years and 40-44 years (474 and 473 respectively). Overall, 31% of users over 35 years contributed to 46% of VTE cases attributable to COCs.

When compared to the use of first-/second-generation COCs, exposure to third-/fourth-generation COCs led to a mean annual excess of 1167 VTE cases, among which:

- 394 estimated cases of pulmonary embolism
- 9 premature deaths, including 3 immediate in-hospital deaths.

* COCs were classified according to the type of progestaten they contain:
1st-/2nd-generation COCs: norethisterone, levonorgestrel, norgestrel;
3rd-/4th-generation COCs: desogestrel, gestodene, norgestimate, chlormadinone, drospirenone, nomegestrol, dienogest

Figure 1. Number of annual VTE cases attributable to COCs in France from 2000 to 2011

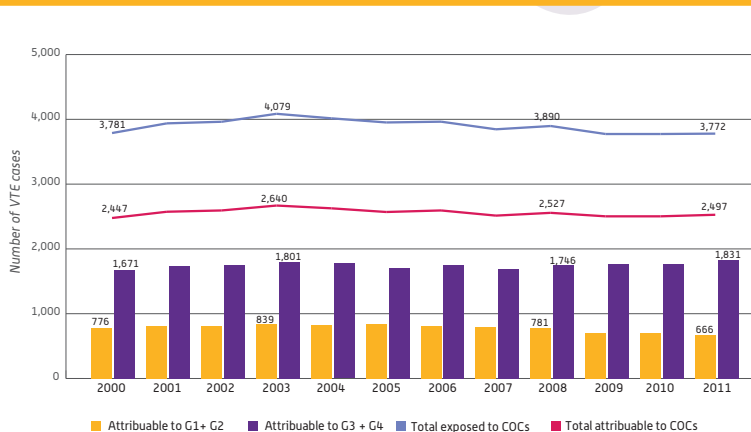


Figure 2. Number of VTE cases attributable to COCs according to age group in France in 2011

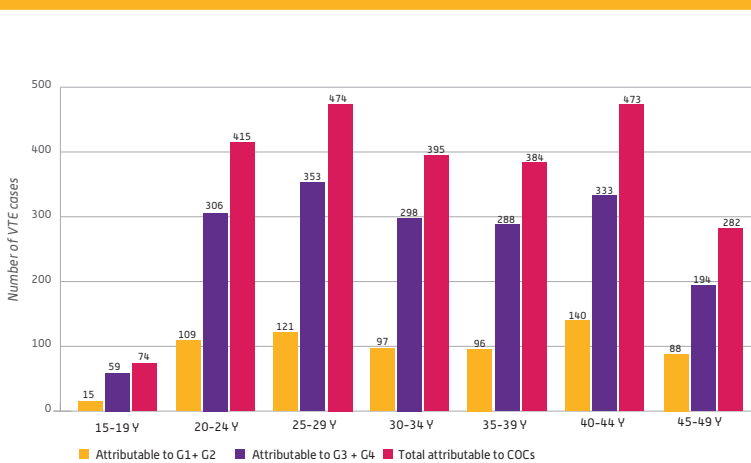
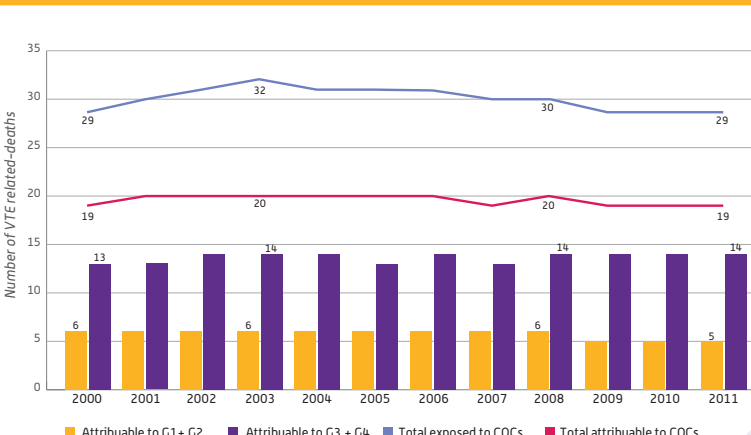


Figure 3. Annual number of VTE related-deaths attributable to COCs in France from 2000 to 2011



CONCLUSION

Risk minimisation actions have been conducted: information for healthcare professionals and patients, modifications of SmPCs. In France, they have led to limit exposure to third- and fourth-generation COCs, and thus optimise the benefit-risk ratio of COCs. Impact of such actions needs to be further assessed.

The results of this study have been published : Tricotel A *et al.* PLoS ONE, 2014.