Anticoagulants are sources of iatrogenia when they are used, misused or not use, especially when medication errors are involved.

The EAHP statement integrates pharmaceutical analysis into our practices mentioning that all prescriptions should be reviewed and validated as soon as possible by a pharmacist. Pharmaceutical analysis practice is highly variable.

Clinical decision support systems have globally proven to be effective in reducing morbidity, improving the Drug Related Problems (DRP) detection and reducing adverse drug events and costs.

The Threefold Alliance AVICENNE as a real time clinical decision support system works on the patient’s data, Pharmaceutical Algorithms (PA) and Pharmaclass® (Keenturtle - F).

This study aims to present AVICENNE ability to detect drug-related problems (DRP) when working on antithrombotic therapy compared to other drugs.

In the 2 algorithms’ sets the number of accepted PIs is collected via computerized patient order entries.

The data are collected during 260 non-consecutive days. On 4121 alerts 1301 were about anticoagulant medications (31%) and 2820 about other medications (69%). DRP detection is better performed with algorithms’ on anticoagulants than with the other one (1029 [79%] vs 1271 [45%]), because of fewer technical false positives.

### Algorithms about other medications

- **Analyzed alerts = 2820**
  - 1549 false positives without DRP
    - 45%
  - 196 DRP without PI
    - Clinical pharmacist’s expertise
  - Potential DRP = 1271
  - 85%
  - PI transmitted = 1075
  - 47%
  - Lack of confidence
  - PI accepted = 505
  - Not accepted = 570

### Algorithms on antithrombotic medication

- **Analyzed alerts = 1301**
  - 272 false positives without DRP
    - 79%
  - 592 DRP without PI
    - Clinical pharmacist’s expertise
  - Potential DRP = 1029
  - 42%
  - PI transmitted = 437
  - 61%
  - Lack of confidence
  - PI accepted = 266
  - Not accepted = 171

Pharmacist issued 437 PI targeting antithrombotic medicines of which 266 PI (61%) were accepted by physician. On the other hand 1075 transmitted PI have resulted in 505 accepted PI (47%). The difference is statistically significant (X²=23.99; p<10-6). For both of the algorithms’ sets the transmission way has the same importance: for the oral way, respectively 29% vs 27% (NS). And the acceptance rate is similar with 81% and 75% respectively (NS).