

#### **Anti-inflammatory Drugs & Blood**

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#### Introduction

Jelić-Ivanović Z, Spasić S, Majkić-Singh N, Todorović P.

Effects of some anti-inflammatory drugs on 12 blood constituents: protocol for the study of in vivo effects of drugs.

Clin. Chem. 1985;31(7):1141-1143.

## **About This Guide**

This is a GoutPal guide to a gout research summary.

Gout studies have summaries called Abstracts. These are often written in scientific language that is difficult for the layman to understand. In this series of GoutPal Guides, I reformat these abstracts to explain technology, jargon and abbreviations.

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# **Objectives (Why they did it)**

To develop procedures for measuring real life (in-vivo) affects of anti-inflammatory drugs on human blood. These procedures are necessary to eliminate the effects of drugs on existing test procedures.

To apply these procedures to measure the effects of 5 drugs on 12 blood components.

# Methods (How they did it)

They investigated:

- 1. aspirin
- 2. diclofenac
- 3. ibuprofen
- 4. indomethacin

- 5. ketoprofen
- To test the effects on:
  - 1. albumin
  - 2. cholesterol
  - 3. triglyceride
  - 4. urea nitrogen
  - 5. uric acid
  - 6. creatinine
  - 7. iron
  - 8. protein
  - 9. glucose
  - 10. bilirubin
  - 11. calcium
  - 12. inorganic phosphate.

# **Results (What happened?)**

There were no effects on protein, glucose,



bilirubin<sup>(\*)</sup>, calcium, and inorganic phospate and no effects by ketoprophen.

Effects	1. Asp.	2. Diclo.	3. Ibup.	4. Indo.
1. Alb.			Down	
2. Chol.	Up			
3. Trig.	Up			
4. Urea		Up		Up
5. Uric			Down	
6. Crea.			Down	
7. Iron	Up			

<sup>(\*)</sup> Bilirubin missed in list of affected blood components in "official" abstract.

### Conclusion (What does it prove?)

The authors recommend new procedures for testing the effects of drugs on blood components.

#### Implications

GoutPal believes this study should make you look twice at other blood analysis studies in case results are skewed by substances being tested affecting the test equipment.

The results indicate that, out of the drugs tested here, ibuprofen is best for gout sufferers because it lowers uric acid. However, anti-inflammatory medicine should never be taken long term due to other health risks. They are useful parts of gout pain relief, but should only be taken as a temporary measure until you can maintain your uric acid at a health level.

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### **Next Steps**

If you have a keen interest in this study, the full version is available at GoutPal.com.

You can learn about other pain relief options, but first you should develop a plan with your doctor to manage uric acid. Proper uric acid management means that you will stop getting gout flares, removing the need for anti-inflammatory treatments for gout.

## **Original Abstract**

#### Method

We investigated the in vivo effects of acetylsalicylic acid, diclofenac, indomethacin, ibuprofen, and ketoprofen on the concentrations of various blood constituents.

#### Results

Total protein, glucose, calcium, and inorganic phosphate were not significantly affected by any of these drugs. Ketoprofen had no definite influence on any constituent. Acetylsalicylic acid induced an increase in cholesterol, triglyceride, and iron; albumin, uric acid, and creatinine

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decreased with ibuprofen therapy. Urea nitrogen increased in patients treated with diclofenac or indomethacin.

#### Conclusion

Our protocol for the study of in vivo drug effects is discussed.

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