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3 **Serratiopeptidase: A drug without clear benefits**

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10 Serratiopeptidase is a proteolytic enzyme produced by *serratia* species E15,
11 isolated from the intestine of silkworm. It has become one of the most widely
12 used medications by both physicians and surgeons and is said to have efficacy in
13 reducing inflammation via the breakdown of various inflammatory mediators. [1]

14 Serratiopeptidase is mostly prescribed in inflammatory illnesses and in some non-
15 inflammatory disorders albeit less commonly due to its analgesic effects. It is
16 even used very commonly in the post-operative period to improve healing and to
17 reduce inflammation of the surgical wound. [2]

18 However, an online literature search on Medline, Cochrane library and Google
19 scholar using the search words *serratiopeptidase*, *serrapeptase*, *serralysin*,
20 *serratiapeptase* and *proteolytic enzymes* retrieved only small-scale, inadequately
21 structured, studies reflecting some anti-inflammatory effects of serratiopeptidase,
22 but most of these failed to demonstrate significant benefits from the drug.[3]

23 Serratiopeptidase has a lower efficacy as compared to the NSAIDs as an analgesic
24 but demonstrated greater anti-inflammatory effects than the NSAIDs.[4]

25 Therefore, it is still not sufficiently efficacious to be used solely and rather, is
26 almost always used in combination with NSAIDs to reduce pain symptoms. [5]

27 As a matter of fact, one of the authors' of this letter had significant experience
28 with the drug in treating seronegative spondyloarthropathy. The drug was used

29 for about a week but no improvement was noted in the reduction of symptoms
30 and the person remained severely disabled. Switching to meloxicam significantly
31 showed good response.

32 In the light of above reports and observations, there is a dire need of conducting
33 well-designed clinical trial-based studies for a wider spectrum of conditions and
34 limit its use until its benefits and/or contraindications are substantially proven [3]

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40 **References**

- 41 1. A.U. Ahmed. An overview of inflammation: mechanism and
42 consequences. *Front Biol* 2011;6:274-81.
- 43 2. P.M. Esch, H. Gerngross, A. Fabian. Reduction of postoperative swelling.
44 Objective measurement of swelling of the upper ankle joint in treatment
45 with serrapeptase-- a prospective study. *Fortschr Med* 1989;107:67-68.
- 46 3. Bhagat S, Agarwal M, Roy V. Serratiopeptidase: a systematic review of
47 the existing evidence. *Int J Surg* 2013;11:209-217.
- 48 4. Mundhava SG, Mehta DS, Thaker SJ. A Comparative Study to Evaluate
49 Anti-Inflammatory and analgesic activity of commonly used Proteolytic
50 Enzymes and their Combination with Diclofenac in Rats. *Int J Pharm Sci*
51 *Res* 2016;7:2615-19.
- 52 5. S.P. Jadav, N.H. Patel, T.G. Shah et al. Comparison of anti-inflammatory
53 activity of serratiopeptidase and diclofenac in albino rats. *J Pharmacol*
54 *Pharmacother* 2010;1:116-7.

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