

Cost-Effectiveness of Treatment with a Homeopathic Preparation in Comparison to Hyaluronic Acid in Patients with Gonococcal Arthritis

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Discussion

Zeel[®] is a homeopathic combination preparation whose components favorably influence connective-tissue metabolism in the joints and also significantly relieve arthritis pain. The standard dosage for intra-articular application is one ampule (2 ml of injectable solution) per injection.

Hyaluronic acid is present in both joint fluid and joint cartilage. The effectiveness of intra-articular administration of hyaluronic acid has been tested in several clinical studies. These studies, conducted primarily on patients with gonococcal arthritis, confirmed a significant improvement in symptoms; the pain-reducing effect became evident in the first days of treatment and lasted anywhere from a few weeks to several months. The usual dosage is 20 mg of hyaluronic acid per injection.

The goal of the present experimental calculation was to present the cost structure of the above-mentioned alternatives in treating gonococcal arthritis. The advantage of this cost-effectiveness analysis is that its data on both pharmaceuticals are drawn from the same clinical study, permitting unrestricted comparison, so its statements about the comparative costs of treatment with the antiarthritic preparation Zeel[®] and with hyaluronic acid are fully admissible.

The clinical study referred to here found Zeel[®] and hyaluronic acid to be equally effective, on the average. This provided the point of departure for a cost-minimization analysis. In a pharmacoeconomic model, however, the number of patients effectively treated is relevant. The required reduction in pain of at least 30% of original intensity must be taken as an assumption of this particular model.

Because total societal costs were cho-

sen as the perspective of this analysis, both direct and indirect costs were calculated. In cases of articular effusion, indirect costs result simply from days of work lost and the cost of transportation to treatment, so the difference in indirect costs is relatively slight in comparison to the difference in direct costs.

The difference in direct costs is primarily due to the cost of the pharmaceuticals in question: Three series of Zeel[®] cost DM 89.91, while three series of hyaluronic acid cost DM 1,380. The DM 1,209.09 difference in the cost of the pharmaceuticals is so close to the difference in total direct costs (DM 1,217.64), that dropout rates due to undesirable side effects had no effect on the cost structure.

Assumptions of this Model

The assumptions underlying this analysis are:

If undesired side effects appear, they always occur in the second week of injection therapy, after the third injection of Zeel[®] and after the second injection of hyaluronic acid.

Each patient with an articular effusion loses five days of work. The dropout rate for patients treated with hyaluronic acid is exactly the same as the empirically determined rate for those treated with Zeel[®].

If treatment with Zeel[®] or hyaluronic acid is discontinued, the patient switches to treatment with a NSAID. One injection series with Zeel[®] or hyaluronic acid corresponds to two 20-tablet prescriptions of diclofenac.

No complications or undesired side effects occur as a result of treatment with NSAIDs or other concomitant therapies. This assumption is in line with the modus operandi of not calculating the cost of treating undesired side effects of concomitant medications. Costs of therapy as calculated using this model disre-

gard complications due to concomitant medications.

Patients whose pain is reduced by more than 30% of original intensity are considered effectively treated.

The patient continues treatment with Zeel[®] or hyaluronic acid for the entire year, even if pain is reduced only slightly. This equals 100% compliance.

Results

Direct costs per patient amount to DM 832.97 for treatment with Zeel[®] and DM 2,050.61 for hyaluronic acid. Thus Zeel[®] costs DM 1,217.64 less than hyaluronic acid, per patient.

Per patient, the socioeconomic costs incurred amount to DM 278.28 for treatment with Zeel[®] and DM 210.51 for treatment with hyaluronic acid. Total cost of treatment is DM 1,111.25 for Zeel[®], or DM 1,149.87 less than the DM 2,261.12 cost of treatment with hyaluronic acid. This constitutes a savings of 50.9%.

In calculating cost-effectiveness, per-patient direct and indirect costs were compared to the intangible benefits in the form of reduced intensity of pain.

Total costs of treatment with Zeel[®] amounted to DM 1,111.25. This treatment was therapeutically effective in 26 out of 57 patients, resulting in a quality-adjusted cost of DM 2,436.20 for each effectively treated patient.

Total costs of treatment with hyaluronic acid amount to DM 2,261.12 per patient. Of the 57 patients, 34 were effectively treated, requiring DM 3,790.70 for each effectively treated patient.

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