Patient Reports of Coccydynia Treatment Effectiveness

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Abstract

The reports on the website www.coccyx.org by patients on the effectiveness of different coccydynia treatments for were used to evaluate how effective the treatments were on average. It was found that 726 patient reports both gave sufficient detail of treatments and outcomes for analysis, and had reported the outcome a year or more after treatment.

Because of biases in the nature of the data, the absolute values of success rates found are not reliable. However, the biases are similar for different treatments, so a comparison of the relative effectiveness of different treatments can be informative.

Analysis of these results showed that the mean reported success of treatment by manipulation of the coccyx was about a factor of 15 times higher than by corticosteroid injection at one year after treatment. It is unlikely that such a large difference arose by chance or from bias.

Method

The website www.coccyx.org has been running since 1999, and at the end of 2017 it contained 2,340 'Personal Experiences' of coccydynia and its treatment, submitted by patients. Of these, 2,210 of them are in English and 130 in other languages. Most of them give information about the treatments that the patients underwent, the time from treatment to report, and the outcome. This paper will use the English language reports up to the end of 2017 to examine the outcomes of different treatments.

It must be recognised that a study using data of this type suffers from several disadvantages. The reports are from volunteers, and many of them are 'cries for help' after a treatment has not given relief, so will be biased towards reporting lower than the true average success rates.

A few therapists encourage patients to send their stories to www.coccyx.org. Since many patients who don't find relief with a treatment will stop it before it is complete, this practice will create a bias towards reports of successful treatments. The reports naming these therapists form 15% of the total used in this study, and not all of them are positive. It is therefore likely that the 'cries for help' give a much larger negative bias than the positive bias given by therapists who encourage reporting.

Other factors affecting the use of this data include the fact that the underlying causes of coccydynia will be different in different cases, there is no verification of the data, no consistency in how information is presented, and in many cases the percentage reduction in pain must be estimated from informal statements.

For these reasons, the data from this study cannot be used to accurately estimate the overall success rates for different types of treatment. However, most of these factors are the same for different types of treatment, so the biases will be similar for different treatments. This study may therefore provide useful information on the relative, rather than absolute, effectiveness of different treatments, at least when there is a large difference in the average reported effectiveness of different treatments.

The trials of treatments reported in medical journals are not without biases themselves. It is well established that there is a publication bias in the medical literature in general such that trials reporting a high degree of success with treatments are more likely to be published than those producing lower success rates. Additionally, trials of treatments that require skill to perform are carried out by experts in their fields, who have extensive experience of the treatment they report on. The great majority of patients are not treated by experts in that particular treatment, so are likely to experience less success in treatment than that reported in published papers. These two factors mean that the published success rates for a treatment will be significantly higher than those experienced by most patients treated by their local doctors.

The published trials of coccydynia treatments are also all about single types of treatment, so there is no possibility of directly comparing the success of different treatments carried out in trials using the same methods of assessment.

Data

Data was collected from each 'Personal Experience' on treatments used, the number of months since start of treatment, and the effectiveness (0-100%) of the treatment at the time of reporting. Since the long-term outcome of treatment is most important, reports in which the time between treatment and reporting was less than a year were excluded, as were reports where the success of treatment was unclear. This left 726 reports out of the original 2,210. The numbers of reports for different treatments are given in Table 1.

Treatment	Number of reports	Number of reports a year or more after treatment
Coccygectomy	250	136
Manual treatment	469	128
Corticosteroid injection, including manipulation under anesthetic	475	248
Exercises	88	26
Nerve block	40	25
Other	413	163

Total	**1735**	**726**

Table 1. Numbers of patients reporting the results of different treatments for coccydynia in the 'Personal Experiences' section of coccyx.org up to the end of 2017.

Many patients gave numerical estimates of the success of their treatments, such as '90% better'. Others gave vaguer estimates, such as 'very much improved' or 'reduced the pain a bit'. In these cases, an approximate percentage improvement was estimated, such as 80% or 20%. The arithmetic means of the percentage improvements was calculated for each form of treatment.

Results

Treatment	Number of reports	Mean months from treatment to report	Mean reported success (%)
Coccygectomy	136	53	54
Manual treatment	128	24	32
Corticosteroid injection, including manipulation under anesthetic	248	24	2
Exercises	26	27	46
Nerve block	128	31	32
Nerve block, 2 years or more after treatment	14	46	0

Table 2. Mean reported treatment effectiveness 1 year or more after treatment.

The results in Table 2 show that for both coccygectomy and manual treatment, the mean reported success in relieving pain is lower than is reported for those treatments in the medical literature, by around a factor of two. However, as discussed there are significant uncertainties and biases in the data used here, and the effectiveness of treatment as reported in the medical literature is likely to be an overestimate of its effectiveness for the average patient. The differences between the data presented here and the data from the medical literature is therefore not large enough to suggest a discrepancy between these results and the published results of trials.

In the case of treatment by corticosteroid injection, the mean reported success in the data analysed here was 2%, very substantially different to the success reported in the medical literature. One study (Wray et al, 1991) reported on a five-year prospective

trial of corticosteroid injection alone, or including manipulation under anesthetic. Treatment could be repeated if it was not effective, up to a maximum of three treatments. It was found that the injection alone had success in 59% of patients, and combined with manipulation had success of 85%. However, in this paper success was defined as an asymptomatic patient at three months, rather than at one year or more, as in the present study. This difference in success rate at different times after treatment accords with the fact that many patients giving their experiences on coccyx.org said that when an injection gave them relief, it only lasted a few months.

A retrospective review of a series of 23 patients treated with corticosteroid injection and manipulation (Ramsey et al, 2003) concluded that treatment was successful in 78% of patients. The follow-up in this case was one year, but the treatment was applied up to three times, and it is not clear whether the follow-up was at one year after the start of treatment or one year after the last treatment.

There is a difference of about a factor of 15 between the two main conservative treatments of coccydynia, manipulation and injection of corticosteroids. It is unlikely that such a large difference arose by chance or from bias. It is likely that the low effectiveness of corticosteroid treatment reported in this study is caused by two factors. The first is the choice in this study of a requirement that reports must be at least a year after treatment, which highlights the difference between temporary and long-term relief from pain. The second is that the studies of corticosteroid treatment reported in the medical literature were carried out by experienced practitioners who carried out a detailed assessment of each patient before treatment and had skill in placing the injections effectively, in contrast to the treatment provided to patients by their local doctors.

It is difficult to interpret the result of the success of exercise treatments in this study. Only 26 patients reported on the result of this treatment, and there is a wide variety of exercises used by therapists. However, the fact that patients using this method reported a mean success rate of 46% suggests that it is an important means of treatment for coccydynia.

Patients treated with nerve blocks reported a mean success rate of 32%. Since it is known that nerves can grow back more than a year after a nerve block, the analysis was repeated for patients reporting more than two years after treatment. There were only 14 of these, but none reported success. Despite the low numbers and the effect of 'cries for help' in the reports, this suggests that nerve blocks have a very low long-term success rate. In contrast, some patients report success from manual treatments more than 5 years after the end of treatment.

The numbers of patients who tried other treatments and reported results more than a year after treatment were too small to allow any conclusions to be drawn. If patients reporting at any time since treatment are analysed, then the results from psychological treatment are of interest. Thirteen out of 18 patients reported partial or complete success in relieving pain. This suggests that this method of treatment deserves more investigation.

Conclusions

Corticosteroids and nerve blocks do not provide long-term relief for the great majority of patients. Manual treatments and exercises appear to be the most effective conservative treatments for coccydynia.

References

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