

Nandrolone Decanoate Improves Joint Pain in Men Within 8 Weeks: A Novel Prospective Pilot Study

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 Androgen Society

March 21-22, 2019 / New Orleans, LA

March 21, 2019

Baylor
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Medicine

Disclosures

- Jason R. Kovac
 - Consultant for AbbVie
- Larry I. Lipshultz
 - Consultant for AbbVie, Lipocine, Aytu Bioscience
 - Speaker for Boston Scientific
 - Consultant and speaker for Endo Pharmaceuticals

Introduction

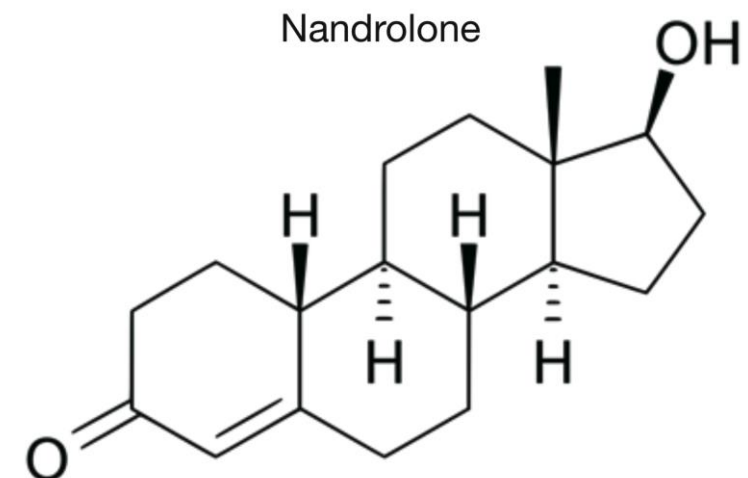
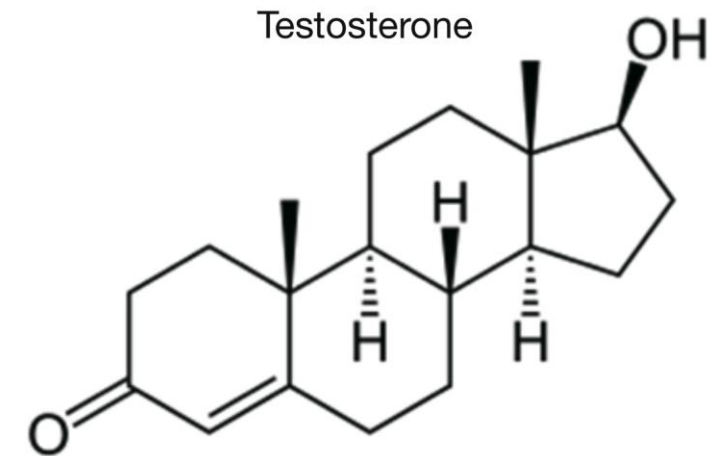
- 5-20% of adult men suffer from hypogonadism (HG).
- Comorbidities linked with HG, such as diabetes and obesity, are often associated with significant and debilitating **joint pain (JP)**.
- Nandrolone decanoate (ND) is an FDA approved testosterone derivative for treatment of anemia and muscle-wasting syndrome that has anecdotally been linked to reduced JP.
- Here we quantify this effect prospectively in a novel pilot study.

Objective

- To assess and characterize the degree of joint pain improvement seen with the use of nandrolone decanoate.

Background

- Nandrolone has a similar chemical structure to testosterone.
- Lacks a methyl group at the 19th position.
- Has an ~10:1 myogenic/androgenic ratio.
- Developed in 1962 by Organon to treat anemia from renal disease.



Background

- Has since been shown to be effective in treating muscle wasting, osteoporosis, and increasing lean mass in eugonadal men.
- Animal studies have shown decreased fatty infiltration and improved healing in rotator cuff injury and repair models.
- Popular performance enhancing drug amongst athletes because of its reported ability to aid in musculoskeletal recovery.
- Anecdotally linked to decreased joint pain without frank injury.

Methods

- Hypogonadal men taking injectable testosterone therapy (TTh) presenting to a single andrology clinic between July 2018 and October 2018 were evaluated for the presence of joint pain.
- Men who reported significant JP and denied prior ND usage were invited to take part in the study.
- Study participants completed the Rheumatoid Arthritis Pain Scale (RAPS), a validated questionnaire initially developed to assess/characterize pain levels in adults with rheumatoid arthritis.

Methods

- The RAPS contains 24 statements about JP to which patients assign a value ranging from 0 (never) to 6 (always).
- Scores are totaled with higher scores representing worse pain.
- Scores can be further subdivided into 4 categories:
 1. Physiologic
 2. Affective
 3. Sensory-Discriminative
 4. Cognitive

Methods

- Men were asked to complete the RAPS prior to starting ND.
- Patient specific characteristics were recorded, including pain location and pain medication use/dosages.
- Men were subsequently started on ND at half the dosage of their current testosterone regimen. All other medications were kept constant.
- After 8 weeks of treatment, study participants once again completed the survey.

Results

- 48 eligible patients completed the initial survey and 18 men (37.5%) responded to follow-up requests at the time of this review.
- Mean duration of therapy was 63 days.
- All patients reported marked improvements in JP with 5 (27.8%) reporting a decreased need for pain medication

Results

Mean Rheumatoid Arthritis Pain Scale Scores (n=18)

	Before Treatment	After Treatment	P Value
Physiologic	12.8	6.1	0.01*
Affective	14.2	7.4	0.002*
Sensory- Discriminative	23.0	11.8	0.001*
Cognitive	15.2	5.7	<0.001*
Total	65.2	31.1	<0.001*

Conclusions

- ND is a promising new adjunctive therapy for hypogonadal men with JP. It reduced pain scores by an average of 52% and decreased pain medication requirements in 27.8% of patients.
- Reducing pain medication needs is paramount in today's opioid crisis climate. Further studies are required to better characterize ND's effects across a larger study population and understand its efficacy.

*The nandrolone decanoate used in this study was manufactured by **Empower Pharmacy**, a 503b compounding pharmacy based in Houston, TX.*



Thank You!