Characteristics and Treatment Pathways in Pediatric and Adult Hidradenitis Suppurativa: An Examination Using Real-World Data

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BACKGROUND
- Malignant neoplasms (MNs) are a chronic, recurring inflammatory disease of the skin.
- Age of onset typically occurs in the second or third decade of life.
- HS also occurs in pediatric patients, generally after the onset of puberty.
- Among adolescents, MNs are associated with significant comorbidities including diabetes mellitus, morbidly obese, syndromic and metabolic disorders, psychological disorders, and anorexia.
- Current treatment consists of topical and/or systemic antibiotics, hormonal interventions, analgesics and, in selected cases, the use of renin-angiotensin-aldosterone system (RAAS) blockers. However, no systemic agents have been approved for use in pediatric patients.

OBJECTIVE
- The objective of our analysis was to evaluate the clinical and treatment characteristics of the pediatric (≤18 years) and adult (≥18 years) HS populations.

METHODS
- Study Population: Pediatric (≤18 years) and adult (≥18 years) patients with 2 or more HS lesions for 12 months or more in the first 365 days of continuous observation time between January 1 to December 31, 2019.
- Data Sources: The following databases were used to collect data:
  1. IBM MarketScan Commercial and Medicare Claims Database (CMS)
  2. Optum360® for OptumPERFEXUS® Launch Date – Data Source (Optum)
  3. IBM MarketScan Multi-State Medicaid Database (WDBCS)
- Analysis, Characterization 1:
  - Demographic and comorbidity information assessed the 30 days before and after 30 days prior to the index HS diagnosis.
  - Treatment pathways for the patients were characterized at each diagnosis and included the following categories: topical treatments, oral antibiotics, biologics, and surgical treatments.
  - Oral antibiotics included tetracycline, doxycycline, lincosamides, minocycline, azithromycin, clarithromycin, spiramycin, cefuroxime, and metronidazole.
  - Biologics included adalimumab, etanercept, infliximab, and TNF inhibitors.
  - Topical treatments included: retinoids, topical isotretinoin, and metronidazole.
  - Surgeries included laser procedures, incision and drainage of abscess, excision of skin and subcutaneous tissue, and acne surgery.
- Exposures prescribed within 14 days of each other were considered a combination therapy.

CHARACTERIZATION OF ADULT PATIENTS AT INDEX HS DIAGNOSIS

- Among pediatric patients, HS occurred primarily in 90% to 95% across 3 databases in pediatric patients aged 2 to 18 years.
- Depression and anxiety were less prevalent in pediatric than in adult HS patients. 8% to 13% of pediatric patients exhibited these conditions.

- Not unexpectedly and indirectly confirming the demographics of the pediatric population assessed, acne was 2% to 5% more prevalent in the pediatric population, and Type 2 diabetes mellitus was 10% to 30% more prevalent in adult than in pediatric patients.

Pediatric treatment pathways 1st line treatments are similar in adult and pediatric populations.

- Treatments are per HS diagnosis; treatment codes indicate 1st line treatment; next codes indicate 2nd line treatments, etc.
- 1st line treatments are oral antibiotics combined with topical treatments (midline section of inner circle) and oral antibiotics alone (midline section of outer circle). Topical treatments above are used less frequently as are surgical treatments.

SUMMARY
- Our study leverages 3 large real-world databases to understand pediatric and adult HS patients’ disease characteristics and treatment pathways.
- Among the pediatric cohort (≤18 years), HS disease was primarily identified in patients 16 years or older.
- Our results indicate that the drugs prescribed in the 30 days prior to the index HS diagnosis were similar in both children and adults.
- The treatment pathways for HS illustrate slight variation between pediatric and adult HS patients when examining groupings of drugs and procedures for treatment of HS.

STRENGTHS & LIMITATIONS
- Limitations:
  - Over the counter drug exposures are not captured.
  - Claims coding errors can be discounted by the requirement to code for reimbursement.
  - The indications for drug exposures are not known definitively.
  - Data are captured only when a patient seeks care; individuals with sick but inactive or insufficient medical insurance could be underrepresented in the database. Therefore, the total patient population will be large.
  - These numbers describe the populations captured by these respective databases, and care should be taken when generalizing findings to the broader US population.

STRENGTHS:
- Our study examines multiple US claims data sources with substantial populations of pediatric and adult HS patients.
- Our study is prospective and utilizes clean data that are not subject to volunteer bias.
- We analyze multiple databases that capture different, though potentially overlapping populations.

REFERENCES

DISCLOSURES
- J. Hardin, R. Makadia, E. Brouwer, S. Black, I. Lara-Corales, L. Diaz, J.S. Kirby, C.M. DeKlotz. Janssen Research and Development, Raritan, NJ; Spring House, PA, USA; 4Takeda Pharmaceuticals, Cambridge, MA, USA; 5Division of Pediatric Medicine, The Hospital for Sick Children, Toronto, Ontario, Canada; 6Department of Pediatrics, The University of Texas at Austin, TX, USA; 7Department of Dermatology, Pennsylvania State University, PA, USA

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