The progression of Crohn's disease: Results from an observational study using US claims data

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Over 20% of patients with newly diagnosed Crohn's disease will progress and experience complications within 3 years of diagnosis

PURPOSE

- To characterize CD progression among patients without CD-related complications in the US

INTRODUCTION

- CD is a chronic, progressive, inflammatory disease of the gastrointestinal tract[1]
- Disease progression is characterized by the occurrence of CD complications, including fistula, intestinal stenosis, and abscess[1]
- There are limited US population-based studies that have shed light on the characteristics of progression, including risk and time to progression, in patients with CD in recent years[2]

CONCLUSIONS

- Over 20% of all patients with newly diagnosed CD experienced disease progression
- Intestinal stenosis was a more common CD complication than fistula or abscess
- The risk of CD progression increased over time in patients with newly diagnosed CD. The sharp increase in risk observed within 6 months post-CD diagnosis may reflect a delay in diagnosing CD in clinical practice

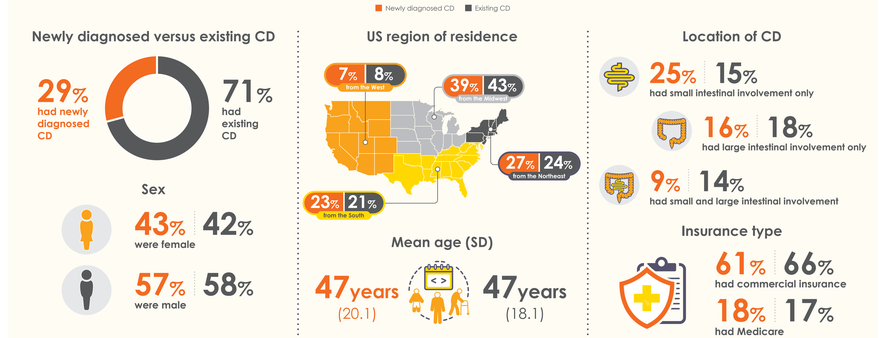
METHODS

- This retrospective, observational cohort study was conducted using Optum® Market Clarity Data, a US database of a commercially insured population
- Patients with a CD diagnosis* during the study period from January 2016 to June 2020 were included
  - **Newly diagnosed CD:** patients without a previous CD diagnosis, who were newly diagnosed between January 2017 and June 2019 (the date of which was defined as the index date)
  - **Existing CD:** patients with a previous CD diagnosis prior to the index date
- CD progression was defined as occurrence of CD-related fistula, intestinal stenosis or abscess, or surgery after the index date (whichever event occurred first). The date of the first of these progression events was considered the progression date
- Patient demographics were reported at the index date
- Comorbidities and treatments were reported at baseline: 12 months prior to (not including) the index date
- Patients with a history of CD progression were excluded from the study
- Risk of CD progression (proportion of patients at risk who progressed) was estimated for newly diagnosed CD at 6,12, 24, and 36 months post-index date
- Time to progression (duration between index date and first progression event) was estimated for patients with newly diagnosed CD using the Kaplan–Meier method
- All analyses were descriptive in nature, and no formal statistical adjustments were conducted

*ICD-9 codes: 555.0, 555.1, 555.2, and 555.9; ICD-10 codes: K50

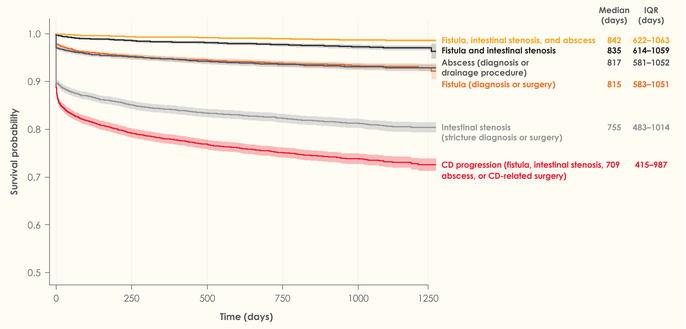
RESULTS

Demographics of patients with newly diagnosed and existing CD (N=23,241) at the index date



Most patients were male, from the Midwest, had commercial insurance, and had both small and large intestinal involvement

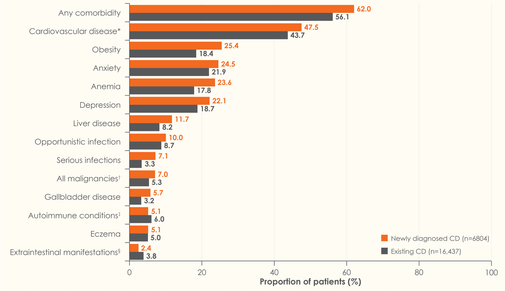
Time to CD progression events among patients with newly diagnosed CD (n=6804)



Time from CD diagnosis to progression event was assessed for the entire follow-up period for newly diagnosed CD only, and was estimated as the time from the index date (CD diagnosis date) to the progression date. If no such progression event was observed in the available follow-up period, the patient was censored.

Patients with individual CD progression events had longer median time to progression than those who progressed with newly diagnosed CD

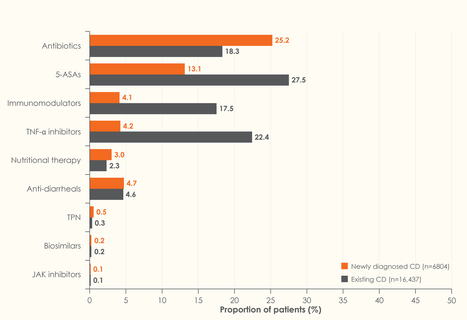
Comorbidities at baseline among patients with newly diagnosed or existing CD



*Cardiovascular comorbidities include myocardial infarction, dyslipidemia, hypertension, and venous thromboembolism. †ICD-10 D codes: *in situ*, benign, uncertain, and unspecified nature neoplasms. ‡Autoimmune conditions include rheumatoid arthritis, psoriasis, and psoriatic arthritis. §Extraintestinal manifestations include aphthous stomatitis, IBD-related arthritis or arthropathy, erythema nodosum, pyoderma gangrenosum, iritis/uveitis, ankylosing spondylitis, and primary sclerosing cholangitis.

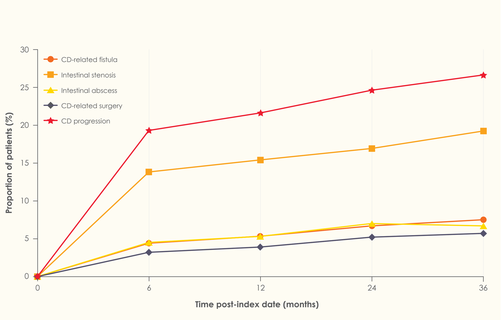
The most commonly reported comorbidities were cardiovascular disease, obesity, and anxiety in patients with newly diagnosed or existing CD

Treatments received at baseline among patients with newly diagnosed or existing CD



The most commonly used medication class was antibiotics for newly diagnosed CD, and 5-ASAs for existing CD

CD progression risk over time among patients with newly diagnosed CD (n=6804)



Overall, CD-related fistula, surgery, intestinal stenosis, and abscess increased over time in patients with newly diagnosed CD

Abbreviations

5-ASA, 5-aminosalicylate; CD, Crohn's disease; IBD, inflammatory bowel disease; ICD-10, International Classification of Diseases 10th Revision; IQR, interquartile range; JAK, Janus kinase; SD, standard deviation; TNF-α, tumor necrosis factor alpha; TPN, total parenteral nutrition; US, United States.

References

1. Torres J, et al. *J Crohns Colitis* 2020;14:4–22.
2. Thia KT, et al. *Gastroenterology* 2010;139:1147–1155.

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