Clinical Heterogeneity in Indolent Systemic Mastocytosis: A German Claims Data Analysis Supporting the Need for Multidisciplinary Care

RWD28

Kristina Dittrich,[1] Hedwig Silies,[1] Kim Maren Schneider,[2] Svitlana Schnaidt,[2] Christian Jacob,[2]

[1]Blueprint Medicines (Germany) GmbH, a Sanofi Company, Munich, Germany, [2]Cencora, Hannover, Germany.

Background

- Systemic mastocytosis (SM) is a chronic clonal mast cell disease primarily driven by the *KIT* D816V mutation in ~95% of cases [1,2].
- Indolent systemic mastocytosis (ISM) represents ~85% of all cases of SM. A minority of patients have advanced SM (AdvSM), which is associated with organ damage due to mast cell infiltration and poor overall survival.[1]
- The multi-organ mast cell infiltration and mediator release leads to heterogenous, non-specific symptoms like cutaneous, gastrointestinal, neurocognitive, and systemic manifestations, including life-threatening anaphylaxis.[3]

Objective

- Aim of the analysis is to describe diagnosing physician specialties, comorbidities, and medications of ISM patients from the perspective of the German statutory health insurance (SHI).

Methods

Data source

- A retrospective German claims data analysis utilizing the *Institiut für angewandte Gesundheitsforschung Berlin* (InGef) research database was conducted. The InGef research database consists of longitudinal SHI claims data from approximately ten million covered lives.[4]
- For scientific research purposes, an adjusted analysis sample of the InGef research database has been created which includes approximately four million individuals structured to represent the German population.[5] The adjusted analysis sample covering the calendar years 2019-2024 was utilized for this study.

Study population

- The following three patient groups were identified:
  - ***ISM (M2Q)*:** Adult patients with ISM diagnosis (ICD-10-GM: D47.0) in two different quarters in the inpatient and/or outpatient sector in 2024 (to omit overlap due to progression of ISM to AdvSM, patients with AdvSM (ICD-10-GM: C94.3 or C96.2) were excluded).
  - ***ISM (1Dx):*** Adult patients with only one recorded ISM diagnosis (ICD-10-GM: D47.0) in the inpatient or outpatient sector in 2024 (observable 2019-2024).
  - ***Incident ISM (1Dx):*** Newly diagnosed adult ISM patients with only one recorded ISM diagnosis (ICD-10-GM: D47.0) in the inpatient or outpatient sector in 2024 (patients were not allowed to show any record of ISM diagnoses from 2019-2023).

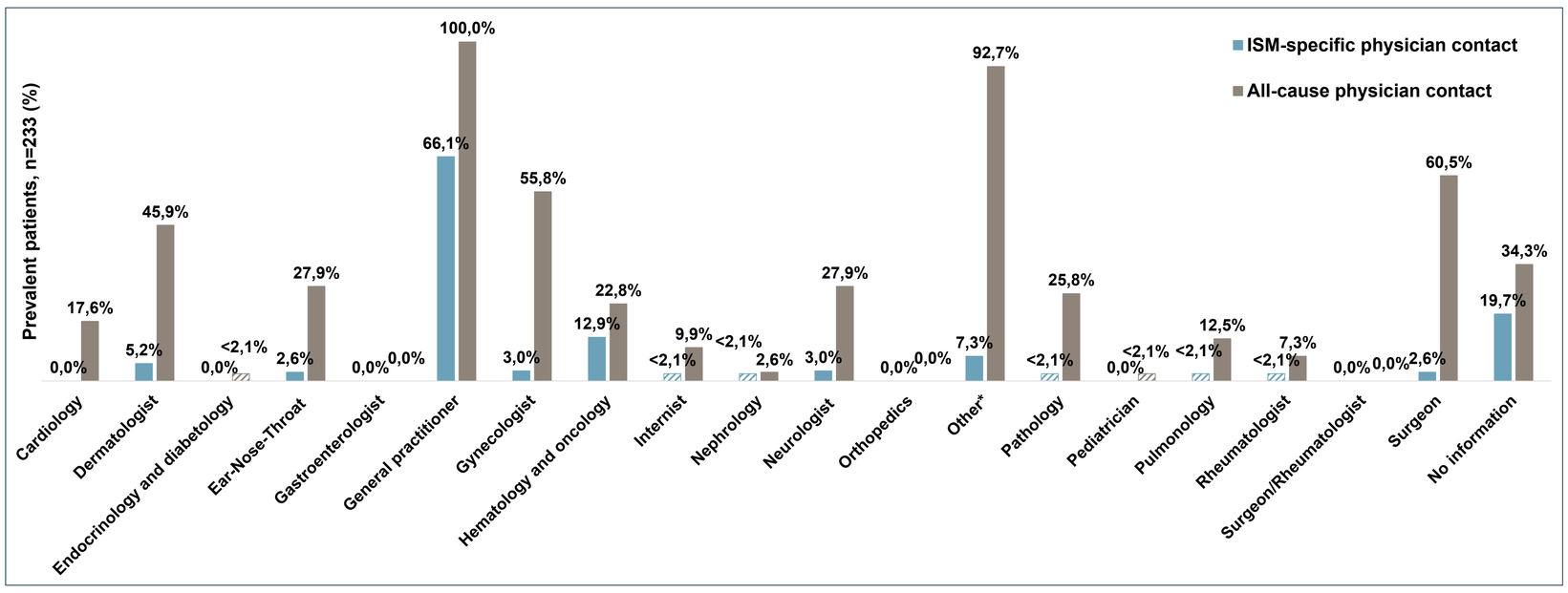
Outcomes

- Physician specialties and pre-defined medication (identified by ATC/OPS codes) were assessed for *ISM (M2Q)* patients in 2024. Outpatient physician specialties recording ISM diagnoses as well as all-cause outpatient physician contacts regardless of ISM record were considered.
- Additionally, pre-defined comorbidities (identified by ICD-10-GM codes) were assessed for *ISM (1Dx)* patients in 2024 and *incident ISM (1Dx)* patients prior to first ISM diagnosis (2019-2023).

Results

- In 2024, n=233 prevalent patients in the *ISM (M2Q)* group were identified in the InGef research database, corresponding to 5.7 per 100,000 individuals.
- Furthermore, n=111 prevalent patients in *ISM (1Dx)* and n=69 patients in *incident ISM (1Dx)* group were identified.

Figure 1: Proportions of ISM (M2Q) patients with ISM-specific and all-cause contact by physician specialty

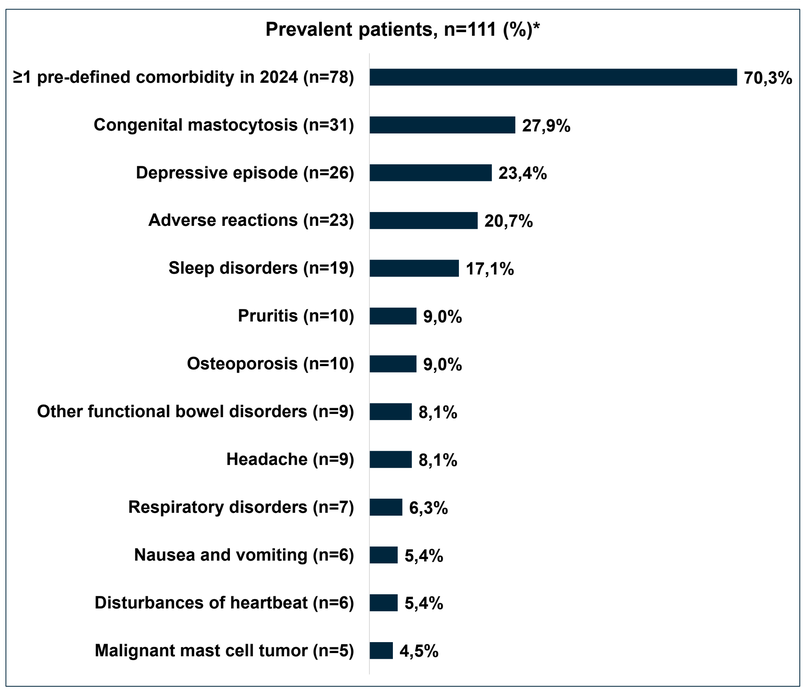


Due to data protection regulations, results for n<5 cannot be presented (striped bars). "Other" includes the following specialties: diagnostic imaging and radiation therapy, laboratory and diagnostic medicine, mental health and psychotherapy, internal and specialized medicine, and surgical/interventional specialties.

Physician specialties among ISM (M2Q) patients

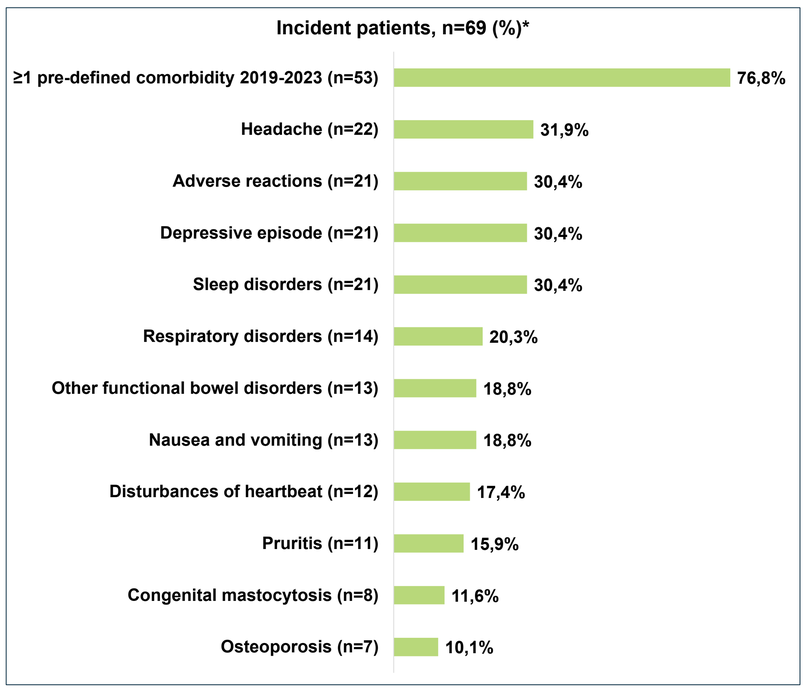
- General practitioners dominate ISM-specific contacts at 66.1%, followed by unspecified specialties (19.7%) and hematology and oncology (12.9%).
- Among all-cause contacts, general practitioners reach 100%, the combined "Other" category 92.7% (incl. e.g., psychosomatic medicine and psychotherapy), and surgeons 60.5%. Gynecologists (55.8%), dermatologists (45.9%), and unspecified specialties (34.3%) are also prominent (**Figure 1**).
- Beyond the diverse somatic burden, all-cause consultations with neurologists and "other" specialists underscore also the need for psychological interventions.
- Overall, patients with ISM show a broad specialty involvement across physician contacts, both diagnosis-related and all-cause.

Figure 2: Concomitant comorbidities in ISM (1Dx) patients



** Only comorbidities documented in at least 5 patients are shown.*

Figure 3: Comorbidities present prior to ISM diagnosis in incident ISM (1Dx) patients

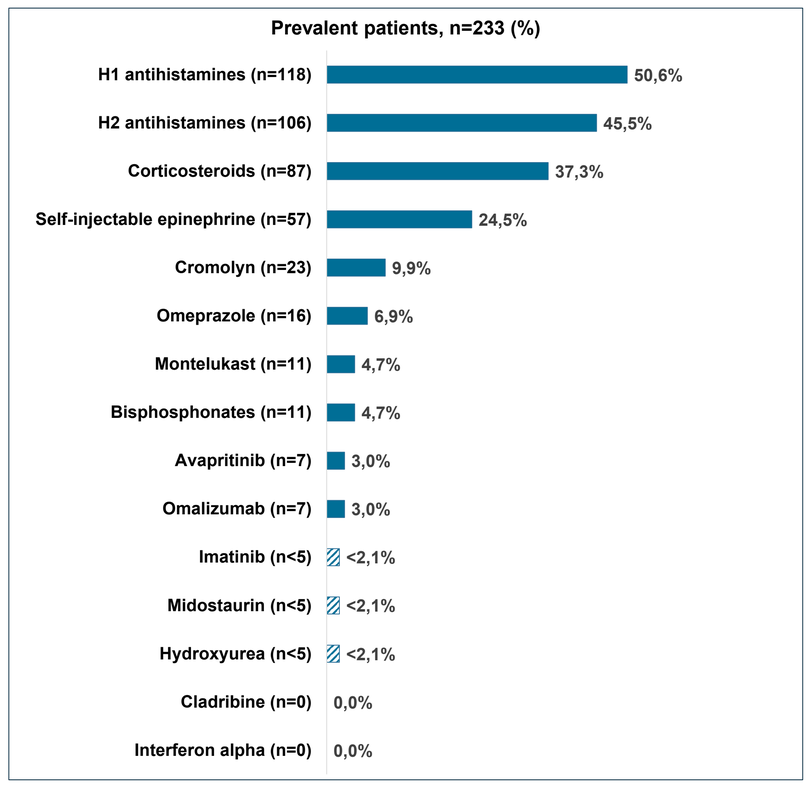


** Only comorbidities documented in at least 5 patients are shown.*

Comorbidities recorded concomitant with (ISM (1Dx)) and prior to (incident ISM (1Dx)) ISM diagnosis

- Among *ISM (1Dx)* patients, 70.3% had at least one of the pre-defined comorbidities in 2024. The most frequent conditions were congenital mastocytosis (27.9%), depressive episode (23.4%), adverse reactions not elsewhere classified, incl. anaphylactic shock (20.7%), and sleep disorder (17.1%) (**Figure 2**).
- Among all *incident ISM (1Dx)* patients who had at least one of the pre-defined comorbidities during 2019–2023 (76.8%), headache was the most frequent specific condition (31.9%). Adverse reactions not elsewhere classified (incl. anaphylactic shock), depressive episode, and sleep disorder each affected 30.4% of patients (**Figure 3**).

Figure 4: Medication use in ISM (M2Q) patients



Due to data protection regulations, results for n<5 cannot be presented (striped bars).

Medication use in ISM (M2Q) patients

- Overall, 74.2% of ISM (M2Q) patients received at least one pre-defined medication (**Figure 4**).
- Most common were antihistamines (H1: 50.6%; H2: 45.5%), corticosteroids (37.3%), and self-injectable epinephrine (24.5%).
- Avapritinib and omalizumab were each prescribed to 3.0% of ISM patients, while midostaurin was rare (<2.1%).

Conclusions

- This German real-world analysis highlights the substantial clinical heterogeneity and multi-system disease burden associated with ISM.
- Our findings support the importance of a multidisciplinary care approach to address the complex disease manifestations.
- Greater awareness across medical specialties and more coordinated care strategies may improve diagnostic pathways and patient management, ultimately enhancing outcomes.

References

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Acknowledgements

The study was conducted in collaboration with the Institut für angewandte Gesundheitsforschung Berlin GmbH.

Disclosures

Study sponsored by Blueprint Medicines. KD and HS are full-time employees at Blueprint Medicines. Cencora received reimbursement for conducting the study. KMS, SS, and CJ are full-time employees of Cencora.