Safety and effectiveness of insulin glargine 300 U/mL in participants with type 2 diabetes who fast during Ramadan in the Gulf region: A subgroup analysis of the real-world ORION study

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## Supplementary Material

### Table S1. History of diabetes complications and comorbidities

| **Complication or Comorbidity**                          | **Participants in ORION study recruited from Gulf region (N = 222)** |
|----------------------------------------------------------|---------------------------------------------------------------------|
| Any complication or comorbidity                         | 106 (47.7)                                                          |
| ≥1 macrovascular complication*                          | 23 (10.4)                                                           |
| Diabetic neuropathy                                     | 81 (36.5)                                                           |
| Diabetic retinopathy                                    | 45 (20.3)                                                           |
| Renal impairment                                        | 51 (23.0)                                                           |
| Microalbuminuria                                        | 31 (60.8)                                                           |
| Macroalbuminuria                                        | 12 (23.5)                                                           |
| Advanced kidney disease                                 | 8 (15.7)                                                            |
| Coronary heart disease                                  | 21 (9.5)                                                            |
| Myocardial infarction                                   | 3 (1.4)                                                             |
| Heart failure                                           | 4 (1.8)                                                             |
| NYHA class I                                            | 2 (50.0)                                                            |
| NYHA class II                                           | 2 (50.0)                                                            |
| Atrial fibrillation                                     | 2 (0.9)                                                             |
| Stroke                                                   | 2 (0.9)                                                             |
| Transient ischemic attack                               | 2 (0.9)                                                             |
| Peripheral vascular disease                             | 3 (1.4)                                                             |
| History of hypoglycemia unawareness                     | 3 (1.4)                                                             |
| History of recurrent hypoglycemia                       | 8 (3.6)                                                             |

Data presented as n (%)  

*macrovascular complication included coronary heart disease, myocardial infarction, heart failure, stroke, and transient ischemic attack  

N total number of participants, NYHA New York Heart Association
Table S2. Hypoglycemia incidence and event rates in all study time periods

| Event                              | Pre-Ramadan | Ramadan | Post-Ramadan |
|------------------------------------|-------------|---------|--------------|
|                                    | All         | Daytime | Nocturnal    | All | Fasting | Non-fasting | All | Daytime | Nocturnal |
| Documented symptomatic hypoglycemia ($\leq 70$ mg/dL) | | | | | | | | | |
| n (%)                              | 7 (3.2)     | 4 (1.8) | 3 (1.4)      | 1 (0.5) | 1 (0.5) | 0 | 1 (0.5) | 1 (0.5) | 0 |
| Event rate                         | 0.018       | 0.010   | 0.008        | 0.005 | 0.005 | 0 | 0.006 | 0.006 | 0 |
| Documented symptomatic hypoglycemia <54 mg/dL | | | | | | | | | |
| n (%)                              | 1 (0.5)     | 1 (0.5) | 0            | 0 | 0 | 0 | 0 | 0 | 0 |
| Event rate                         | 0.003       | 0.003   | 0            | 0 | 0 | 0 | 0 | 0 | 0 |

There were no severe hypoglycemia events reported.
Analysis included all eligible participants (N = 222). Event rates are shown as events per participant-month.
Fasting hours were between Suhur and Iftar; non-fasting hours were between Iftar and Suhur.
Appendix – I

Participating physicians from the Gulf region

| Country        | Investigator name              | Role in the Investigation       | Institutional Affiliation(s)                                      |
|----------------|--------------------------------|---------------------------------|------------------------------------------------------------------|
| Kuwait         | Abdulnabi Alattar, MD          | Principal Investigator          | Amiri Hospital, Kuwait City, Kuwait                               |
|                | Hisham Mohamady, MD           | Principal Investigator          | Mubarak Hospital, Jabriya City, Kuwait                           |
|                | Muneera Al Randi, MD          | Principal Investigator          | Ministry of Defence Hospital, Kuwait                             |
|                | Sameer Al Shammarri, MD       | Principal Investigator          | Jahra Hospital, Al Jahra, Kuwait                                 |
|                | Mahmoud Mostafa, MD          | Principal Investigator          | Amiri Hospital, Kuwait City, Kuwait                               |
|                | Nabila Al Abdela, PhD        | Principal Investigator          | Mubarak Hospital, Jabriya, Kuwait                                |
|                | George Samir, MD             | Principal Investigator          | Jahra Hospital, Al Jahra, Kuwait                                 |
|                | Nabil Abd EL Hameed, MD      | Principal Investigator          | Rumaitheya PolyClinic, Rumaitheya City, Kuwait                   |
| Qatar          | Rayaz A Malik, MD, PhD       | Principal Investigator          | Weill Cornell Medicine, Doha, Qatar                              |
|                | Amin Jayyousi, MD            | Principal Investigator          | HMC, Doha, Qatar                                                  |
|                | Tarik Elhadd, MD             | Principal Investigator          | HMC- Al Wakra Hospital, Doha, Qatar                              |
|                | Khaled Dukhan, MD            | Principal Investigator          | HMC- Al Wakra Hospital, Doha, Qatar                              |
|                | Khalid Shawish, MD           | Principal Investigator          | HMC- Al Wakra Hospital, Doha, Qatar                              |
| Saudi Arabia   | Huda Mustafa, MD, PhD        | Principal Investigator          | AlZafer Hospital, King Abdulaziz Rd, 66261, Najran, Saudi Arabia |
|                | Diaa Ewais, MD               | Principal Investigator          | Saudi German Hospital, Al Batarji, Alzahra district, 3521, Jeddah, Saudi Arabia |
|                | Ezzat Karima, MD, MSc        | Principal Investigator          | Hai Al Jamea, Al-Saira Al-Atira St. P.O Box 10153 21433, Jeddah, Saudi Arabia |
|                | Saud Al-Sifri, MD            | Principal Investigator          | Hada Military Hospital, 3394 Al Hada, 26792, Taif, Saudi Arabia  |
| Country        | Investigator name          | Role in the Investigation | Institutional Affiliation(s)                          |
|---------------|-----------------------------|---------------------------|------------------------------------------------------|
| United Arab Emirates | Asim Hassan, MD                | Sub-Investigator          | Hada Military Hospital, 3394 Al Hada, 26792, Taif, Saudi Arabia |
| United Arab Emirates | Hans Mohammed, MD             | Principal Investigator    | Dr Joseph Polyclinic, Dubai, United Arab Emirates    |
| United Arab Emirates | Mona Salah El Din, MD       | Principal Investigator    | Garhood Hospital, Dubai, United Arab Emirates        |
| United Arab Emirates | Dinesh Kumar, MD             | Principal Investigator    | NMC Speciality Hospital AUH, Abu Dhabi, United Arab Emirates |
| United Arab Emirates | Ravi Arora, MD               | Principal Investigator    | NMC Speciality Hospital AUH, Abu Dhabi, United Arab Emirates |
| United Arab Emirates | Manesha Pandey, MD           | Principal Investigator    | Aster Clinic-Bur Dubai, United Arab Emirates        |
| United Arab Emirates | Abdul Mohamed Shabeer, MD   | Principal Investigator    | Modern Family Clinic, Dubai, United Arab Emirates    |
| United Arab Emirates | Maher Jallo, MD              | Principal Investigator    | Thumbay Hospital, Ajman City, United Arab Emirates  |
| United Arab Emirates | Mostafa Abdel Aziz, MD      | Principal Investigator    | UAQ Hospital, Um al Quain City, United Arab Emirates |
| United Arab Emirates | Najiba Abd Al Razaq, MD     | Principal Investigator    | Kuwait Dubai Hospital, Dubai, United Arab Emirates  |
| United Arab Emirates | Mahmoud Hammuri, MD         | Principal Investigator    | Kuwait Dubai Hospital, Dubai, United Arab Emirates  |
| United Arab Emirates | Yousef Mohammed, MD         | Principal Investigator    | Al Qassimi hospital, Dubai, United Arab Emirates    |