**Supplementary material**

**A Survey of Physician Experience and Treatment Satisfaction Using Fast-acting Insulin Aspart in People with Type 1 or Type 2 Diabetes**

**Supplementary Table 1.** Survey questionnaire

**Screener & Caseload Information**

1. What is your profession *(Check one)*

|  |  |
| --- | --- |
| Primary care | 1. General practice |
| 1. Family practice |
| 1. Internal medicine |
| Secondary care | 1. General practice and certified as an endocrinologist |
| 1. General practice and certified as a diabetologist |
| 1. Family practice and certified as an endocrinologist |
| 1. Family practice and certified as a diabetologist |
| 1. Internal medicine and certified as an endocrinologist |
| 1. Internal medicine and certified as a diabetologist |
| 1. Endocrinologist |
| 1. Diabetologist |
| 1. Diabetologist/endocrinologist |
| 1. Other |

i14 not displayed for UK and the Netherlands; i6 to i11 and i14 not displayed for Switzerland and Canada; For Canada, internal medicine to be present under ‘secondary care’; i2 and i6 to i13 not displayed for Denmark; i2, i14 and i6 to i11 not displayed for Finland and Norway.

1. How many **patients** **with diabetes** do you treat on average **per month**?

|  |  |  |
| --- | --- | --- |
|  | No. of **T1D** patients | No. of **T2D** patients |
| 1. ≤20 |  |  |
| 1. 21–40 |  |  |
| 1. 41–60 |  |  |
| 1. 61–80 |  |  |
| 1. 81–100 |  |  |
| 1. 101–120 |  |  |
| 1. >120 |  |  |

1. Based on your experience, how important is **every meal postprandial glucose (PPG)** **coverage** compared to **only main meal PPG coverage?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Every meal PPG coverage**  is much more important | **Every meal PPG coverage**  is more important | Somewhat the same importance | **Main meal** PPG **coverage** is more important | **Main meal** PPG **coverage** is much more important |

1. About how many patients have you **treated/are you currently treating with faster aspart** in your clinic(s)?

|  |  |  |
| --- | --- | --- |
|  | No. of **T1D** patients | No. of **T2D** patients |
| 1. 0–1 |  |  |
| 1. 2–5 |  |  |
| 1. 6–10 |  |  |
| 1. 11–15 |  |  |
| 1. 15+ |  |  |

1. How long has it been since you initiated your **first patient** on **faster aspart**? *(Please answer the question in either months OR weeks OR days)*

|  |  |  |
| --- | --- | --- |
| Length of time | Please tick appropriate box | n |
| 1. Months | **** | **\_\_\_\_\_\_\_\_** |
| 1. Weeks | **** | **\_\_\_\_\_\_\_\_** |
| 1. Days | **** | **\_\_\_\_\_\_\_\_** |

1. For your patients with diabetes, what proportion in general are assigned to each of the following insulin **treatment regimens**?

|  |  |
| --- | --- |
|  | % of patients with **T1D** |
| 1. Multiple daily injections of insulin |  |
| 1. Insulin pumps |  |
| 1. Other |  |
| Total (max 100%): |  |

If the proportion in ‘Other’ is >0%, please specify the other treatment regimen: ……………………

|  |  |
| --- | --- |
|  | % of patients with **T2D** |
| 1. ‘Basal plus’ i.e. basal + 1 or 2 prandial/mealtime insulin (± OAD) |  |
| 1. ‘Full basal–bolus’ i.e. basal + 3 prandial/mealtime insulin (± OAD) |  |
| 1. Basal + GLP-1 (± OAD) |  |
| 1. Premix (± OAD) |  |
| 1. Other |  |
| Total (max 100%): |  |

If the proportion in ‘Other’ is >0%, please specify the other treatment regimen: ……………………

**Patient characteristics**

1. **In patients you have initiated on faster aspart,** what proportion of patients were on each of the following **baseline treatment regimens?**

|  |  |
| --- | --- |
|  | **% of T1D patients** |
| 1. Multiple daily injections of insulin |  |
| 1. Insulin pumps |  |
| 1. Newly diagnosed patients |  |
| 1. Other |  |
| Total (max 100%): |  |

If ‘Other’ is selected, please specify the other treatment regimen: ……………………

|  |  |
| --- | --- |
|  | **% of T2D patients** |
| 1. OADs |  |
| 1. GLP-1 (± OAD) |  |
| 1. Basal (± OAD) |  |
| 1. ‘Basal plus’ i.e. basal + 1 or 2 prandial/mealtime insulin (± OAD) |  |
| 1. ‘Full basal–bolus’ i.e. basal + 3 prandial/mealtime insulin (± OAD) |  |
| 1. Basal + GLP-1 (± OAD) |  |
| 1. Premix (± OAD) |  |
| 1. Continuous subcutaneous insulin infusion/insulin pump |  |
| 1. Newly diagnosed patients |  |
| 1. Other |  |
| Total (max 100%): |  |

If ‘Other’ is selected, please specify the other treatment regimen: ……………………

1. Of the total patients for whom you prescribed faster aspart, what is the proportion of patients that were **previously being treated with mealtime insulin (bolus) versus** those who were **bolus-naïve**?

|  |  |  |
| --- | --- | --- |
|  | % of **T1D** patients | % of **T2D** patients |
| 1. Patients switching to faster aspart from other mealtime (bolus) treatment |  |  |
| 1. Patients initiating faster aspart with no prior mealtime (bolus) treatment |  |  |
| Total (max 100%): |  |  |

8 a) In patients that you have switched from another mealtime insulin, was there a change in the timing or dose of the mealtime insulin?

|  |  |  |
| --- | --- | --- |
|  | **T1D** patients | **T2D** patients |
| 1. Yes | **** | **** |
| 1. No | **** | **** |

8 b) What proportion of your patients showed changes in dosage or timing when switched from other mealtime insulins?

|  |  |  |
| --- | --- | --- |
|  | % of **T1D** patients | % of **T2D** patients |
| 1. Increased the mealtime dose |  |  |
| 1. Decreased the mealtime dose |  |  |
| 1. Changed the timing of the mealtime dose |  |  |
| 1. Increased mealtime dose and changed timing |  |  |
| 1. Decreased mealtime dose and changed timing |  |  |
| 1. Other |  |  |
| Total (max 100%): |  |  |

1. Regarding your type 2 diabetes patients, what would have been the **most relevant intensification alternative** if you had not prescribedfaster aspart? *(Please tick all that apply)*
2. Up-titrate on basal (± OAD)
3. Up-titrate on either basal or bolus (± OAD)
4. Basal + other bolus (± OAD)
5. Basal + GLP-1 RA (± OAD)
6. Basal+ SGLT-2i (± OAD)
7. Premix (± OAD)
8. Continuous subcutaneous insulin infusion/insulin pump
9. Other

If ‘Other’ is selected, please specify the other treatment choice: ……………………

1. Approximately, what is the split between your **patient types** for whom youprescribefaster aspart?

|  |  |  |
| --- | --- | --- |
|  | Patients initiating mealtime insulin (split in %) | Patients switching from another mealtime insulin (split in %) |
| 1. Patients where there is a concern of inadequately controlled blood glucose (HbA1c) |  |  |
| 1. Patients with potential problems of hypoglycemia |  |  |
| 1. Patients concerned about postprandial hyperglycemia |  |  |
| 1. Patients who need to take corrective mealtime insulin (bolus) doses |  |  |
| 1. Patients who need the option to take their bolus dose after meals |  |  |
| 1. Patients who need the option to take their bolus at mealtime |  |  |
| 1. Other |  |  |
| Total (max 100%): |  |  |

If the proportion in ‘Other’ is >0, please specify the other patient types: ……………………

1. At the time of initiating faster aspart prescription, what is the percentage split of patients based on the characteristics mentioned below

|  |  |  |
| --- | --- | --- |
|  | % patients with **T1D** | % patients with **T2D** |
| 1. Age ≤30 years |  |  |
| 1. Age 31–40 years |  |  |
| 1. Age 41–50 years |  |  |
| 1. Age 51–65 years |  |  |
| 1. Age >65 years |  |  |
| Total (max 100%): |  |  |

|  |  |  |
| --- | --- | --- |
|  | % patients with **T1D** | % patients with **T2D** |
| 1. BMI <25 kg/m2 |  |  |
| 1. BMI 25–30 kg/m2 |  |  |
| 1. BMI 31–35 kg/m2 |  |  |
| 1. BMI >35 kg/m2 |  |  |
| Total (max 100%): |  |  |

|  |  |  |
| --- | --- | --- |
|  | % patients with **T1D** | % patients with **T2D** |
| 1. HbA1c <7.0% ( 53 mmol/mol) |  |  |
| 1. HbA1c 7.0–7.5% (53–59 mmol/mol) |  |  |
| 1. HbA1c 7.5–8.0% (59–64 mmol/mol) |  |  |
| 1. HbA1c 8.0–8.5% (64–69 mmol/mol) |  |  |
| 1. HbA1c 8.5–9.0% (69–75 mmol/mol) |  |  |
| 1. HbA1c >9.0% (75 mmol/mol) |  |  |
| Total (max 100%): |  |  |

c1. For patients with HbA1c levels of 8.0% and above, please let us know if there was a clinical consequence or not

|  |  |  |
| --- | --- | --- |
|  | With clinical consequence  (e.g. hypo/hyper episode where patient was unable to treat him/herself) | Without clinical consequences |
| 1. HbA1c 8.0–8.5% (64–69 mmol/mol) | **** | **** |
| 1. HbA1c 8.5–9.0% (69–75 mmol/mol) | **** | **** |
| 1. HbA1c >9.0% (75 mmol/mol) | **** | **** |

|  |  |  |
| --- | --- | --- |
|  | % patients with **T1D** | % patients with **T2D** |
| 1. Adherence to diabetes therapy is good |  |  |
| 1. Adherence to diabetes therapy is poor |  |  |
| Total (max 100%): |  |  |
| 1. Adherence to insulin is good |  |  |
| 1. Adherence to insulin is poor |  |  |
| Total (max 100%): |  |  |

Diabetes therapy includes exercise, diet, and medication.

**Physician experience with faster aspart**

Instructions: Please answer the questions in this section based on your memory; you are not required to go through individual patient records. If a question is not asked specifically for T1D and T2D patients, please answer it considering both these patient types.

1. In your clinic or practice where you spend the majority of your time, do you have access to a diabetes nurse or educator to help with starting new insulins?
   1. Yes
   2. No

12a Is the diabetes nurse or educator on-site/off-site?

1. On-site
2. Off-site
3. In most cases, are patients prescribed faster aspart at the **same visit** when introduced to faster aspart treatment option?
4. Yes
5. No

14a. Please specify the approximate **number of visits** it takes for you and the patient to decide to initiatefaster aspart treatment

Visits: \_\_\_

14b. Please specify **how long** it takes, on average, for you and the patient to decide to initiatefaster aspart treatment? *(Please answer the question in months OR weeks OR days OR a combination of the three)*

\_\_\_months \_\_weeks\_\_days

1. What are your main **reasons for selecting faster aspart** as the mealtime insulin for patients with T1D and T2D?

|  |  |  |
| --- | --- | --- |
|  | Split in %  (patients with **T1D)** | Split in %  (patients with **T2D)** |
| 1. Faster onset of appearance |  |  |
| 1. It improves PPG (postprandial glucose) control in T1D and T2D patients |  |  |
| 1. It improves HbA1c control in T1D patients |  |  |
| 1. It potentially lowers risk of long-term complications in T1D |  |  |
| 1. Faster aspart offers the option to be used at meal and postmeal when needed, without compromising HbA1c |  |  |
| 1. Faster aspart is a known molecule (insulin aspart) with improved profile compared to existing formulations of insulin aspart |  |  |
| 1. Faster aspart is a cost-saving mealtime insulin option |  |  |
| 1. Better device option |  |  |
| 1. Other |  |  |
| Total (max 100%): |  |  |

If the proportion in ‘Other’ is >0, please specify the other reason to prescribe faster aspart: ……………………

16a. You mentioned one of the reasons for using faster aspart is that it is a formulation of insulin aspart which is a known molecule. Which aspect of familiarity with insulin aspart is the most important for you?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Not at all important | Slightly important | Moderately important | Very important | Extremely important |
| 1. Insulin aspart has proven efficacy |  |  |  |  |  |
| 1. Insulin aspart has proven safety |  |  |  |  |  |
| 1. Good clinical experience with insulin aspart |  |  |  |  |  |
| 1. Good body of data is available for insulin aspart |  |  |  |  |  |

16b. Why do you consider faster aspart to be a cost-saving mealtime insulin? *(Please tick all that apply)*

1. It lowers risk of long-term complications in T1D, thereby resulting in cost offsets
2. It provides good glycemic control, thereby reducing complications, which are a significant cost factor in both T1D and T2D
3. It might reduce neuropathy and diabetic foot complications, resulting in future cost savings
4. Other

If ‘Other’ is selected, please specify the other reason: ……………………

1. What are the reasons for not switching your other patients on mealtime insulin to faster aspart? *(Please tick all that apply)*
2. Need for more information
3. Reluctance to change from patients
4. Need further scientific evidence on safety
5. Need further scientific evidence on effectiveness
6. Patient responding well to current therapy
7. Reimbursement/funding issues
8. Other

If ‘Other’ is selected, please specify the other reason: ……………………

1. Of your patients using faster aspart, what percentage would you estimate reach their target HbA1c level?

|  |  |  |
| --- | --- | --- |
|  | % patients with **T1D** | % patients with **T2D** |
| 1. Faster aspart patients reaching target HbA1c level |  |  |
| 1. Faster aspart patients unable to reach target HbA1c level |  |  |
| 1. Don’t know/have not followed up on their HbA1c level yet |  |  |
| Total (max 100%): |  |  |

1. For patients who were initially not on target but achieved target after initiation of faster aspart, how many **visits, on average,** did it take for them to reach their target level of HbA1c?

|  |  |  |
| --- | --- | --- |
|  | Patients with **T1D** | Patients with **T2D** |
| Number of visits (average) | \_\_\_ | \_\_\_ |
| Number of phone calls (average) | \_\_\_ | \_\_\_ |

19a. For patients who were initially not on target but achieved target after initiation of faster aspart, **how long** did it take for them to reach their target level of HbA1c? *(Please answer the question in months OR weeks OR days OR a combination of the three)*

|  |  |
| --- | --- |
| Patients with **T1D** | Patients with **T2D** |
| \_\_months \_\_weeks \_\_days | \_\_months \_\_weeks \_\_days |

1. Please indicate what was the average **daily faster aspart** **dose**, when patients were in glycemic control? Please enter the value from 01 to 250 units.

|  |  |  |
| --- | --- | --- |
|  | Patients with **T1D** | Patients with **T2D** |
| Number of units (average) | \_\_\_ | \_\_\_ |

1. How many blood glucose measurements do you instruct your patients to take when using faster aspart? *(For column 1 and column 2, distribute your patients across the options)*

*For your type 1 diabetes patients*

|  |  |  |
| --- | --- | --- |
|  | At time of switch to/start of faster aspart  % patients | After titration of faster aspart  % patients |
| 1. <3 times a day |  |  |
| 1. 4 times a day |  |  |
| 1. 5 times a day |  |  |
| 1. 6 times a day |  |  |
| 1. >6 times a day |  |  |
| Total (max 100%): |  |  |

*For your type 2 diabetes patients*

|  |  |  |
| --- | --- | --- |
|  | At time of switch to/start of faster aspart  % patients | After titration of faster aspart  % patients |
| 1. Once a day |  |  |
| 1. 2 times a day |  |  |
| 1. 3 times a day |  |  |
| 1. 4 times a day |  |  |
| 1. >4 times a day |  |  |
| Total (max 100%): |  |  |

1. Were there changes to other diabetes medications when faster aspart was prescribed?
2. Yes
3. No

22a What were the changes to other diabetes medication? *(Please tick all that apply)*

1. Medication was discontinued
2. Medication dose was altered
3. The regimen was changed
4. Other

If ‘Other’ is selected, please specify the other changes: ……………………

1. Approximately, what would you estimate is the split between the **main reasons** for your patients not reaching the target level of HbA1c with **faster aspart**? *(Please total up to 100%)*

|  |  |
| --- | --- |
|  | Split in % |
| 1. Patient has just initiated the treatment |  |
| 1. Lack of adherence |  |
| 1. Difficulties with titration |  |
| 1. Difficulties with self-management |  |
| 1. Other |  |
| Total (max 100%): |  |

If the proportion in ‘Other’ is > 0 please specify the other reason for your patient not reaching the target level of HbA1c: ……………………………..

1. Please indicate what percentage of your patients with diabetes discontinue treatment with **faster aspart**?

\_\_\_\_\_\_%

1. Among the patients who have discontinued **faster aspart** treatment, how long after the initiation of the treatment did the patients discontinue? *(Distribute the patients between the four options mentioned below)*

|  |  |
| --- | --- |
|  | % of patients |
| 1. In the first month |  |
| 1. After 2–3 months |  |
| 1. After 4–6 months |  |
| 1. After 7+ months |  |
| Total (max 100%): |  |

1. Approximately, what are the **main reasons** **for discontinuation** of faster aspart?

|  |  |
| --- | --- |
|  | Split in % |
| 1. Desired blood glucose control (HbA1c) not fully achieved |  |
| 1. Concerns of hypoglycemia |  |
| 1. Level of patient co-pay |  |
| 1. Difficulty in adhering to treatment regimen |  |
| 1. Difficulties with self-management |  |
| 1. Difficulties with titration |  |
| 1. Difficulties with the device |  |
| 1. Other |  |
| Total (max 100%): |  |

If the proportion in ‘Other’ is > 0% please specify the other reason for discontinuation of faster aspart: …………………………….

1. How often are the following **concerns** expressed by your patients?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Much more with  **faster aspart** | More with  **faster aspart** | Equally with both | More with  **other**  **mealtime insulin** | Much more with  **other**  **mealtime insulin** |
| 1. Fear of needles |  |  |  |  |  |
| 1. Fear of hypoglycemia |  |  |  |  |  |
| 1. Fear of local allergic reaction |  |  |  |  |  |
| 1. Difficulty in calculating correct dose |  |  |  |  |  |
| 1. Feeling that the intensified regimen is too complicated |  |  |  |  |  |
| 1. Difficulties with titration |  |  |  |  |  |
| 1. Difficulties with the device |  |  |  |  |  |
| 1. Difficulty in taking dose at the right time |  |  |  |  |  |
| 1. Difficulty adhering to intensified regimen |  |  |  |  |  |
| 1. Difficulty carrying supplies throughout the day |  |  |  |  |  |
| 1. Forgetting to take their insulin with them |  |  |  |  |  |
| 1. Interference with daily life |  |  |  |  |  |
| 1. Interference with their job performance |  |  |  |  |  |

1. In your experience, how is faster aspart **different** from other rapid insulins?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Strongly disagree | Disagree | Neither agree or disagree | Agree | Strongly agree |
| 1. Faster onset of appearance |  |  |  |  |  |
| 1. Flexibility of dosing (at meal) |  |  |  |  |  |
| 1. Flexibility of dosing (up to 20 minutes after starting eating) |  |  |  |  |  |
| 1. Provides better control of HbA1c level in T1D patients |  |  |  |  |  |
| 1. Provides better control of PPG level in both T1D and T2D patients |  |  |  |  |  |
| 1. Provides better control of PPG level in T1D patients only |  |  |  |  |  |
| 1. Provides better control of PPG level in T2D patients only |  |  |  |  |  |
| 1. Offers cost saving |  |  |  |  |  |
| 1. Other reasons that differentiate faster aspart from rapid insulins |  |  |  |  |  |
| 1. Do not know | **** | | | | |

If ‘Other reasons’ is selected, please specify any other parameter across which faster aspart is different from other rapid-acting insulins: ……………………………..

**Confidence level**

1. How confident are you in **uptitrating a patient** to reach their target level of HbA1c with faster aspart?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| For T1D patients | | | | |
| 1 = Not at all confident | 2 = Not very confident | 3 = Neutral | 4 = Confident | 5 = Very confident |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| For T2D patients | | | | |
| 1 = Not at all confident | 2 = Not very confident | 3 = Neutral | 4 = Confident | 5 = Very confident |

1. How confident are you in your **patients’ ability to self-titrate** their dosage on faster aspart?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| For T1D patients | | | | |
| 1 = Not at all confident | 2 = Not very confident | 3 = Neutral | 4 = Confident | 5 = Very confident |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| For T2D patients | | | | |
| 1 = Not at all confident | 2 = Not very confident | 3 = Neutral | 4 = Confident | 5 = Very confident |

1. Please compare your satisfaction of treating patients with **faster aspart compared to other mealtime insulin** formulations based on each of the following:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Much more satisfied with  **faster aspart** | More satisfied with  **faster aspart** | Equally satisfied with both | More satisfied with  **other**  **mealtime insulin** | Much more satisfied with  **other**  **mealtime insulin** |
| 1. Reaching HbA1c target |  |  |  |  |  |
| 1. Improving postprandial glucose levels |  |  |  |  |  |
| 1. Concerns of hypoglycemia |  |  |  |  |  |
| 1. Flexibility of dosing (at meal) |  |  |  |  |  |
| 1. Flexibility of dosing (up to 20 minutes after starting eating) |  |  |  |  |  |
| 1. Ease of training the patients |  |  |  |  |  |
| 1. Time it takes to train patient on how to manage their injectable therapies |  |  |  |  |  |
| 1. Overall side-effect profile |  |  |  |  |  |
| 1. Onset of action |  |  |  |  |  |
| 1. Cost-effectiveness |  |  |  |  |  |
| 1. Simplicity of therapy |  |  |  |  |  |
| 1. Patient adherence |  |  |  |  |  |
| 1. Number of injections |  |  |  |  |  |
| 1. Patient satisfaction |  |  |  |  |  |

1. Based on your experience, how confident are patients to reach their target blood glucose levels with **faster aspart compared to other mealtime insulin** formulations?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Faster aspart**  has much more potential to improve confidence | **Faster aspart**  has a little more potential to improve confidence | **Faster aspart** is somewhat the same as **other mealtime insulin formulations** | **Other mealtime insulin formulations**  have a little more potential to improve confidence | **Other mealtime insulin formulations**  have much more potential to improve confidence |

1. Based on your experience, what are your **concerns** for treating patients with **faster aspart compared with** **other mealtime insulin** formulations?

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Much more concerned with **other**  **mealtime insulin** formulations | More concerned with  **other**  **mealtime insulin** formulations | Equally concerned with **both** | More concerned with **faster aspart** | Much more concerned with  **faster aspart** |
| 1. Concern of patients having hypoglycemia |  |  |  |  |  |
| 1. Concern of local or systemic allergic reactions |  |  |  |  |  |
| 1. Concern of postprandial hyperglycemia |  |  |  |  |  |

BMI, body mass index; CSII, continuous subcutaneous insulin infusion; GLP-1, glucagon-like peptide-1; HbA1c, glycated hemoglobin; OAD, oral antidiabetic drug; PPG, postprandial glucose; SGLT-2, sodium-glucose co-transporter-2; T1D, type 1 diabetes; T2D, type 2 diabetes

**Supplementary Table 2.** Reasons for discontinuation of faster aspart

|  |  |  |  |
| --- | --- | --- | --- |
|  | Overall population (n = 140) | GPs  (n = 101) | Specialists  (n = 39) |
| Concerns of hypoglycemia | 17% | 19% | 14% |
| Difficulty adhering to treatment regimen | 17% | 19% | 12% |
| Level of patient co-pay | 17% | 19% | 12% |
| Desired HbA1c target not fully achieved | 16% | 16% | 19% |
| Difficulties with self-management | 15% | 16% | 11% |
| Difficulties with titration | 8% | 6% | 13% |
| Difficulties with the device | 4% | 4% | 4% |
| Other\* | 5% | 1% | 14% |

\*Other includes financial reasons, inadequate efficacy, lack of monitoring, same efficacy as other treatments, side effects, and reduction of insulin.

GP, general practitioner; HbA1c, glycated hemoglobin.