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**Association of Clinical Endocrinologist
& Diabetologist of Bangladesh (ACEDB)**

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Emerging a New Endocrine & Diabetes Forum

***Siddiqui NI¹**

A new association for the clinical endocrinologist and diabetologist of Bangladesh named ACEDB has been emerged by a consensus of the concerned specialists in a general meeting held on 10 May 2016 in Dhaka where most of specialists of the country were present. The common consensus was that the formation of such organization is the utmost need of the time to fulfill the demand of the young endocrinologists and diabetologists in the growing phase of escalation epidemic of diabetes and other hormonal diseases facing by our common people.

The aim of the organization is to create an expanded field in endocrine, diabetes and other metabolic diseases so that the young endocrinologists and diabetologists of the country have got greater opportunities for their professional development.

Late national Professor Dr. Md. Ibrahim had the vision to serve the common people of our country by creating facilities in the field of diabetology and endocrinology and founded the hospital, now the Ibrahim Memorial Hospital for better care and organized delivery of health services for diabetic and endocrine patients. He established the BIRDEM Academy for creating specialists in this field for the first time in the

country and now the center of excellence and WHO collaborating center.

To fulfill the dream of Late National Professor Md. Ibrahim, outstanding contribution was made by our honorable teachers Maj. Gen. (Rtd.) Prof. AR Khan, Prof. AK Azad Khan, Prof. Hajera Mahtab and others. Scientific forum, the Bangladesh Endocrine Society led by Prof AK Azad Khan contributed a lot for the development of endocrine services, scientific activities and academic performance at various levels of the country including government, public and private sectors.

01. **Professor Dr. Md. Nazrul Islam Siddiqui, Professor & Head of Endocrinology, Mymensingh Medical College, Mymensingh, Bangladesh; Editor in Chief, The Endocrine and Diabetes Voice, Bangladesh.
E-mail: mnisendo@yahoo.com*

**for correspondence*

With the demand of the time and reality, new forum ACEDB was formed for expanded field of specialized endocrine and diabetes activities, complementary to the existing organizations. Hope and aspiration is that ACEDB will fulfill

the need of the time, provide expanded field of scientific and academic activities, improve patient's care, develop young specialists and uplift their future.

ACEDB : A Background

*** Mollah AS¹**

The seeds of such an organization for the clinical endocrinologists and diabetologists of Bangladesh were sown in the mind of a visionary group of professionals in this field gathered at Prince Hotel, Mirpur-1, Dhaka on 17 December 2015. Subsequently, "The Association of Clinical Endocrinologist and Diabetologist of Bangladesh (ACEDB)" was founded in May, 2016 to serve as the active voice for clinical endocrinologists and diabetologists of Bangladesh.

The need for ACEDB was evidenced by the very presence of large number of endocrinologists and diabetologists from across the country in the first communicating meeting held in May 10, 2016 at hotel Sarina, Banani, Dhaka. At this time, most of the clinical endocrinologists and diabetologists particularly the younger have no input to the health care system, nor are they represented in any of the health policy making bodies of the country excepting their individual efforts in education, research and in patient care. To address this need, a convening committee of 21 clinical endocrinologists and diabetologists from across the country accepted responsibility and dedicating a great deal of time and effort to creating ACEDB. Much care was given to choosing a name in order to reflect the objectives of organization and emphasis on providing practicing clinical endocrinologists and diabetologists an avenue for the study of the scientific, social, political, and economic aspects of diabetes, endocrine and metabolic diseases in consistent with maintaining the highest levels of patient care and standards of medical practice.

ACEDB is created with a mission to promoting the art and science of clinical endocrinology,

diabetology, and metabolism for the improvement of patient care and public health, and with a vision to be recognized as the authoritative voice for Endocrinology and Diabetology in Bangladesh and abroad.

The impetus behind ACEDB's efforts shall always be quality and cost-effective patient care for those with diabetes, endocrine and metabolic diseases. The ACEDB is planning to execute high quality academic programs, including clinical and scientific sessions, workshops, training courses, publications and national campaign throughout the country during the whole year, including an international standard annual conference. The ACEDB also, is planning to create a speaker's panel especially from the younger generation of endocrinologists and diabetologists as well as the experts from the other related field with the objective to create scope for the younger and to create sufficient experts in various specific segment of this field.

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1. * *Prof. Abdus Saleque Mollah*
Convener, ACEDB
E-mail: mollahas55@gmail.com
** for correspondence*

The ACEDB will build a strong network of scientific and professional allies to enhance recognition of its role as the representative of clinical endocrinology and diabetology around national and international arena. To be successful with a new organization, it's critical to have a strong understanding among the members of the organization. The ACEDB executives will remain committed to the Association's mission and providing its members with an ever-expanding scope of programs and activities.

We shall be successful as we all are inspired by our beloved, honorable national professor late Dr M Ibrahim and are upholding his vision "no diabetes patient should die without treatment".

Congratulations!

First Meeting of ACEDB

In Bangladesh, Endocrinology started its journey in late 50s by a noble physician National Professor Dr. Mohammed Ibrahim as he along with others came forward to establish Diabetic Association of Bangladesh (the then Pakistan) in 1956. He established Bangladesh Institute of Research and Rehabilitation in Diabetes, Endocrine and Metabolic Disorders (BIRDEM) in 1986.

The endocrinologists of the country felt the necessity of an organization of their own that would meet the demand of rapidly expanding field of diabetes and other endocrine diseases in

Bangladesh. With the above view, after raising consensus about an endocrine organization by the young endocrinologists, seniors came forward. An informal meeting was held at Hotel Prince, Mirpur-1, Dhaka on 17 December, 2015. The leading endocrinologists of the country took part in a short discussion about formation of an endocrine organization while they gathered for annual conference of Bangladesh Endocrine Society. Prof. Abdus Saleque Mollah, former head of the Department of Endocrinology, Chittagong Medical College was given the responsibility for a general meeting of



Photographs: Presence of members of ACEDB in 1st meeting

Endocrinologists and Diabetologists all over the Bangladesh to form a new organization. Subsequently a formal meeting was called by Prof. Abdus Saleque Mollah on 10 May 2016 at Hotel Sarina, Gulshan, Dhaka. About 60 endocrinologists from different parts of Bangladesh attended the meeting. The meeting was chaired by Prof. Md. Nazrul Islam Siddiqui, head of the department of Endocrinology, Mymensingh Medical College and was facilitated by Prof. Md. Farid Uddin, ex-Chairman, Department of Endocrinology, BSMMU. Prof. Abdus Saleque Mollah made a power point presentation highlighting the

necessity of formation of an organization of the endocrinologists and diabetologists. He also proposed the name "Association of the Clinical Endocrinologist and Diabetologist of Bangladesh" (ACEDB) for the organization. Different aspects regarding the formation, organogram and membership criteria of the organization were also discussed by Prof. Abdus Saleque Mollah. All the present endocrinologists argued for the establishment of an organization and expressed their diverse experiences of endocrine practices throughout the country. The major points of the discussion were as follows:

- Bangladesh Endocrine society should be run by the endocrinologists.
- Endocrinologists must be united for the sake of their professional matter
- Endocrinology practice in our country is haphazard and poorly organized. There should be a disciplined and well organized practice in this field for better care of patients.
- Endocrine and Diabetes practice should be done by the recognized specialists in this field and duly certified by BMDC.
- The representation of new organization should come from different institutions of the country without being confined to one or more institute in the centre.
- The formation of new organization proposed as ACEDB is the need of the time for development of patient's care, professional and academic uplifts and to accommodate the young Endocrinologists for their services.
- The various field of Endocrinology such as thyroid diseases, reproductive endocrinology, metabolic diseases including osteoporosis and others specialties group should be developed and led by Endocrinologists in Bangladesh.

After a long discussion, a convening committee was formed. Prof. MA Jalil Ansari, Head of the department of Endocrinology of Dhaka Medical College proposed the name of Prof. Abdul Saleque Mollah as the convener of the committee and Dr. Indrajit Prasad, Assistant Professor, Department of Endocrinology, DMC&H supported it and the audience agreed without any debate. Prof. Md. Nazrul Islam Siddiqui, Head of the department of Endocrinology of Mymensingh Medical College, Prof Md. Farid Uddin from BSMMU and Prof. Md. Faruque Pathan from BIRDEM, were selected as joint conveners. Prof. MA Jalil Ansari was selected as member secretary as Prof. MA Mannan from Anwar Khan Modern Medical College proposed his name and was supported by Dr. Hafizur Rahman, from Dhaka Medical College. The convener, joint conveners and the member secretary were empowered to select the rest of the members of the convening committee. The meeting ended up by a concluding remark by the chairperson.

2nd Meeting of ACEDB

The 2nd meeting of ACEDB was held on July 29, 2016 Friday at Prince Hotel, Mirpur-1, Dhaka. The meeting was started by a welcome speech of the chairperson of the session Prof. Abdus Saleque Mollah. Prof. M A Jalil Ansari announced the name of the 21 (twenty one) members of the convening committee consisting of the following members. Prof. Abdus Saleque Mollah was selected as convener and Prof. Md. Nazrul Islam Siddiqui from MMC, Prof. Md. Fariduddin from BSMMU, and Prof. Md. Faruque Pathan from BIRDEM were selected as the joint conveners of ACEDB; while Prof. Md. Abdul Jalil Ansari from DMC was selected as the member secretary. Sixteen members were selected from different institutions of the country. The minutes of general meeting of endocrinologists held on 10/05/16 were

approved after few corrections. Initiating the discussion on membership criteria of ACEDB Prof. SM Ashrafuzzaman from BIRDEM sought clarification whether the doctors having post graduate degree on only diabetology could be a member in future. Prof. M A Mannan from AKMMC stated that the membership of ACEDB should be confined to the endocrinologists only. Prof. Md. Nazrul Islam Siddiqui emphasized that the membership criteria should be specified clearly so that there would be no scope of inclusion of non-endocrinologist as general member of ACEDB. Prof. M Fariduddin stated that most people do not understand what an endocrinologist is meant for and endocrine organization of many countries have changed their name including the words both endocrinology and diabetology in their names.



Photograph: Presence of members of ACEDB in 2nd meeting

The chairperson Prof. Abdus Saleque Mollah concluded the discussion by stating that there should be well-defined criteria for being members of ACEDB, so that there would be no scope for debate regarding this. A brief discussion took place about formation of constitution committee. The chairperson

explained the importance of constitution committee and sought opinions for the formation of this committee. Prof. Md. Fariduddin stated that the number of members of constitution committee should be limited and only those who can spare time for the same purpose should be

included in this committee. Dr. Qamrul Hasan of Rangpur Medical College emphasized the inclusion of experienced persons in the constitution committee. After discussion, the Chairperson Prof. Abdus Saleque Mollah proposed some names as members of the constitution committee and sought opinions. The constitution committee was formed and approved unanimously. The convening committee members selected Prof. Nizamul Karim Khan as chairman, Prof. Liaquae Ahmed Khan as co-chairperson and Dr. AKM Aminul Islam as member secretary of the constitution committee. Ten members were included in the constitution committee. The committee was given two months time to formulate a draft constitution for ACEDB.

The Chairperson Prof. AS Mollah explained the importance of a newsletter of ACEDB. Prof. Md. Nazrul Islam Siddiqui emphasized that a bulletin should be published by the convening committee. He also suggested forming a website of the organization. After the discussion, decision to publish a newsletter was taken unanimously. Prof. Md. Nazrul Islam Siddiqui proposed the name 'The Endocrine and Diabetes Voice' for the newsletter and it was approved unanimously. The Chairman Prof. AS Mollah proposed the name of Prof. M A Hasanat, Chairman, Department of Endocrinology, Bangabandhu Sheikh Mujib Medical University (BSMMU) as the chairperson of the Editorial Board. Prof. M Friduddin proposed the name of Prof. M Nazrul Islam Siddiqui as the chief editor of the newsletter. Dr. Qamrul Hasan of Rangpur Medical College stated that members of newsletter committee should represent each and every division of Bangladesh. After further discussion a newsletter committee was formed and approved unanimously. Prof. M A Hasanat from BSMMU was selected as chairperson and Prof. Md. Nazrul Islam Siddiqui was selected as

editor in chief of the newsletter committee and three assistant editors and seven members from different institutions were selected for the newsletter committee. The newsletter committee was given two months time to publish a newsletter of ACEDB named 'The Endocrine and Diabetes Voice'.

The chairperson Prof AS Mollah explained the necessity to raise a fund to run the organization. It was decided unanimously that fund should be collected from subscription fees of the members of ACEDB and other legal sources/sponsors. Dr AKM Aminul Islam of Manikganj Medical College was given the responsibilities unanimously to look after the financial matters. The meeting was concluded with concluding remarks by the chairperson Prof. AS Mollah. He stated to inform the members of the committee about the next meeting in time.

Meeting of Editorial Board

Date : 30 September 2016,

Venue: Prince Hotel, Mirpur, Dhaka, Bangladesh

Following agenda are accepted :

1. Name of News Letter: The Endocrine and Diabetes Voice (EDV)
2. Design and format of News Letter (One out of three was accepted)
3. Frequency - Biannual (January and July)
4. News Letter: 2 - 4 publications followed by regular Journal as name The Endocrine and Diabetes Voice (EDV)
5. Contents: Editorial, news update, future plane and activities, scientific writings etc
6. Editorial policy: Following the recommendations of ICMJE
7. Recognition: Initiative should be taken to have the recognition of following bodies:
 - a. ISSN

- b. Indexing - NLM ID, PubMed, MEDLINE and Index Medicus
- c. Other National & International bodies

The meeting of the Editorial Board was ended with thanks to all the participants and soliciting their co-operation in future.

- 8. Web Site & Publication in Website:
(www.acedbd.com)
- 9. Finance: Author subscription, advertisement, sponsorship etc.
- 10. Circulation: All members, Medical College Libraries, Institutions etc
- 11. Miscellaneous: Inclusion as a member of the Editorial Board

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3rd Meeting of ACEDB

The third meeting of the convening committee ACEDB took place on 30 September 2016 at Hotel Prince, Mirpur, Dhaka, Bangladesh. The meeting was started with Prof. AS Mollah, convener of ACEDB, in chair. Prof. MA Jalil Ansary, member secretary of ACEDB conducted the meeting. He requested Prof. Nizamul Karim Khan, the president of the constitution committee, to chair the meeting of the constitutional committee. On the request of the President of the constitutional committee, Dr.

AKM Aminul Islam, member secretary of the committee made a power point presentation highlighting different parts of the proposed constitution. Later the members of the committee had a brief discussion on it. Finally it was decided that the hard copy of the proposed constitution will be given to the members of the constitutional committee. They will work on specified part of the constitution and after necessary modifications or corrections; they will submit it to the president of the committee.



Photographs: Presence of members of ACEDB in 3rd meeting

Then the member secretary of ACEDB requested the Editor in chief of newsletter Prof. Nazrul Islam Siddiqui to start the meeting of the Editorial board of newsletter of ACEDB. Prof. Siddiqui presented four different designs of cover page of newsletter in front of the Editorial Board and finalized one of those. It was previously decided that the name of the newsletter will be 'Endocrine & Diabetes Voice (EDV)' and it will be published biannually, January and July every year. After successful publication of few issues of the newsletter, the 'Endocrine & Diabetes Voice (EDV)' will be continued as a biannual journal of ACEDB. The policy of the journal will be the recommendations of ICMJE with its latest update. As per opinion of the Board, initial

financial support will be taken from the sponsors. Copies of EDV will be circulated to all the members, medical college libraries, medical institutions etc. The newsletter Editor proposed the name of Dr. Md. Anowar Hossain to include in the list of assistant editors and it was accepted by the convening committee. The first issue of 'EDV' will be published as early as possible.

After the break of prayer and lunch, the meeting resumed and a long discussion took place regarding the formation of the next executive committee of Bangladesh Endocrine Society by consensus. The members of ACEDB agreed that Endocrine Society and ACEDB will run simultaneously to serve different purposes and there must be

no contradictions between the two organizations. The members also opined that that the Endocrine Society should have representatives from all of the medical institutions of Bangladesh having Endocrinology department. They came to an agreement that as the leading organization, BIRDEM will get president post of Endocrine Society and the other vital posts of the executive committee will go in favor of other institutions.

Then a scientific session chaired by Prof. Md. Farid Uddin took place. Dr. Farhana Aktar presented his talk on role of insulin Degludeg-Aspart in diabetes management and Dr. Javed Sobhan presented a topic on the outcome of LEADER Trial.

The convener of the committee expressed thanks and gratitude to all members for joining the meeting and concluded the meeting.

Convening committee:

<i>Designation</i>	<i>Name</i>	<i>Institution</i>
Convener	Prof. Abdus Saleque Mollah	Retired
Joint Convener	Prof. Md. Nazrul Islam Siddiqui	MMC
	Prof. Md. Fariduddin	BSMMU
	Prof. Md. Faruque Pathan	BIRDEM
Member Secretary	Prof. Md. Abdul Jalil Ansari	DMC
Members	Prof. Md. Abdul Mannan	Anwar Khan MC
	Prof. SM Ashrafuzzaman	BIRDEM
	Dr. Mir Mosharaf Hossain	SSMC
	Dr. Ahsanul Haq Amin	Apollo Hosp.
	Dr. Md. Shah Emran	SOMC
	Dr. Shahjada Selim	BSMMU
	Dr. AKM Aminul Islam	Manikganj MC
	Dr. Md. Qamrul Hassan	Rangpur MC
	Dr. Indrajit Prasad	DMC
	Dr. Md Rafiq Uddin	CMC
	Dr. Debashish Kumar Ghosh	SBMC
	Dr. Mohammad Moin Shahid	Ad-Din MC
	Dr. Farhana Akhter	CMC
	Dr. Imtiaz Mahbub	RMC
	Dr. Faria Afsana	BIRDEM
	Dr. ABM Kamrul Hasan	MMC

Constitution committee:

<i>Designation</i>	<i>Name</i>	<i>Institution</i>
Chairman	Prof. Nizamul Karim Khan	Retired
Vice-chairman	Prof. Liaquae Ahmed Khan	International MC
Member Secretary	Dr. A K M Aminul Islam	Manikganj MC
Members	Prof. Md. Abdul Mannan	Anwar Khan MC
	Prof. Md. Nazrul Islam Siddiqui	MMC
	Prof. Md. Fariduddin	BSMMU
	Prof. S M Ashrafuzzaman	BIRDEM
	Dr. Ruhul Amin	SSMC
	Dr. Md. Firoz Amin	BIRDEM
	Dr. Md. Shah Emran	SOMC
	Dr. Sadika Tukan	Square Hospital
	Prof. Abdus Saleque Mollah (by post)	Retired
	Prof. Md. Abdul Jalil Ansari (by post)	DMC

Editorial Board:

<i>Designation</i>	<i>Name</i>	<i>Institution</i>
Chairman	Prof. M A Hasanat	BSMMU
Editor in Chief	Prof. Md. Nazrul Islam Siddiqui	MMC
Asst. Editor	Dr. Md. Hafizur Rahman	DMC
	Dr. Md. Qamrul Hassan	Rangpur MC
	Dr. Md. Anowar Hossain	Sayeed NI MC
	Dr. ABM Kamrul Hasan	MMCH
Members	Prof. Abdus Salek Mollah	Retired
	Prof. Md. Abdul Jalil Ansari	DMC
	Dr. Md. Shah Emran	SOMC
	Dr. Iftekhar Hossain Khan	CMC
	Dr. Shahjada Selim	BSMMU
	Dr. Indrajit Prasad	DMC
	Dr. Faria Afsana	BIRDEM

Practical Management of Diabetes during Holy Hajj

***Fariduddin M¹, Gaffar AJ²**

Holy hajj is one of the five pillars of Islam. It is obligatory for all adult healthy Muslims who can afford the journey. More than two million Muslims perform Hajj each year. Among them 20-30% are diabetic. Hajj is a real challenge for diabetic patients & their attendants. However, by good planning & pre-travel education and consultation with medical teams & muallem Hajj can be performed safely without major health consequences.

Health Hazards During Hajj

Performing holy Hajj is a good fortune. One can do it only if Allah desires. Once Hajj is accepted he or she becomes spiritually innocent like new born babies. Good physical and mental health is the most important prerequisite as Hajj duties can be demanding in terms of physical activities & mental effort. People performing it very obviously those having diabetes may face difficulties as they travel through places where geography, weather, diet, habits & language are different. Specific risks during Hajj includes intercurrent illnesses i.e. upper respiratory tract infections, urinary tract infections, dysentery & diarrhea, heat stroke, dehydration, generalized body ache & fluctuating blood sugar levels. So, not only acquiring conception about those common problems but also having the preliminary knowledge of management by consulting with concerned physician prior to travel for holy Hajj is the basis to overcome such unpleasant circumstances.

Preparation before Travel

Better to start preparation for Hajj prior to Ramadan by consulting with concerned

physician as well as caravan manager (Mwallim):

- Practice walking for at least half an hour in a day
- Complete your recommended vaccinations
- Try to have a good control of diabetes & high blood pressure. Seek for other medical management if needed. Do an X-ray Chest & ECG consulting with your doctors.
- It is obligatory to learn practical management of diabetes including hypoglycemia, sick day management & blood pressure control in different adverse situations by consulting with physicians prior to travel.
- Pack your general & emergency medications, insulin, syringe, glucometer, cotton, dipstick etc. in separate plastic container or in your hand luggage.
- Carry on your physicians' prescription always with you and keep a duplicate copy in luggage.
- You can keep your insulin in water for better storage in hot weather where facilities not available (i.e. freezing) or can take suggestions from provider company.
- Monitor blood sugar regularly by glucometer.

-
1. **Prof. Md. Fariduddin, Founder Chairman & Course Coordinator, Department of Endocrinology, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh*
 2. *Dr. Abu Jar Gaffar, Medical Officer, Sadar Hospital, Naogaon, Bangladesh*

**for correspondence*

Personal Communication

Diabetes care during Hajj

- Always carry some carbohydrates (i.e. Glucose, Sugar, biscuits, Dates etc)
- As hypoglycemia is a medical emergency It is obligatory to explain its' proper management to caravan manager & teammates in the very beginning
- Drink plenty of normal Jamjam water daily
- If use insulin, before Ehram one can check blood glucose by glucometer & urine ketone by dipstick. If needed, use a small dose of insulin to cover hyperglycaemia and or some bread for hypoglycaemia by measuring sugar with dipstick.
- Insulin can be stored in special cool wallets. Kept away insulin & blood glucose test strips from direct sunlight.
- Better to consume some extra carbohydrates before Tawaf (Circumambulation around Ka'abah), saay (walking between Safa and Marwah) and whenever long walking & more activities are needed.
- It is recommended to decrease dose of insulin about 25% and same can also be applied to sulfonylurea drugs (i.e. Glybenclamide) before and during those days of long walking.
- Try to protect your feet from damage by ground tiles or other pilgrims during walking or from being stamped on while circling the Ka'abah barefoot.
- Consult Hajj medical team promptly in case of fever, diarrhea, vomiting or any acute medical conditions.

Diabetes Burden in Bangladesh

*Prasad I¹, Paul AK²

Diabetes is a major non communicable disease, ranking as a leading cause of death and disability worldwide¹. Globally, the prevalence of diabetes is 8%, and nearly 80% of patients with diabetes live in low- and middle-income countries². Worldwide per hour 810 deaths, 230 amputations, 120 kidney failure, 55 blindness occur due to diabetes³. Like many developing countries, prevalence of diabetes in Bangladesh has increased substantially from 4% in 1990 to 7.4 % in 2015 in adult population and is projected to reach 13% by 2030^{4,5,6}. 415 million people have diabetes in

the world and 78 million people in the SEA region. There were 7.1 million cases of diabetes in Bangladesh in 2015⁶.

1. *Dr Indrajit Prasad, Assistant Professor of Endocrinology, Dhaka Medical College, Dhaka, Bangladesh; E-mail: drindrajit1976@yahoo.com
2. Dr Ajit Kumar Paul, Associate Professor of Endocrinology, Maynamoti Medical College, Comilla, Bangladesh

*for correspondence

Diabetes in Bangladesh - 2015⁶

Total adult population (1000s) (20-79 years)	95,947	Number of deaths in adults due to diabetes	129,312
Prevalence of diabetes in adults (20-79 years) (%)	7.4	Cost per person with diabetes (USD)	51.0
Total cases of adults (20-79 years) with diabetes (1000s)	7,138.9	Number of cases of diabetes in adults that are undiagnosed (1000s)	3,689.8

Diabetes has become a major public health issue in Bangladesh, affecting one in ten adults. However, significant proportions of adults are unaware of their diabetes disease status and few with diabetes receive treatment regularly⁷. So urgent action is necessary to stop diabetes development through improving detection, awareness, prevention, and treatment of diabetes.

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Carbimazole Resistant Hyperthyroid Disorder Treated with Prednisolone: A Case Report

*Emran MS¹, Jahan N², Hassan MQ³, Roy RK⁴

This is a case report where thyrotoxicosis failed to respond to conventional treatment with carbimazole. The patient remained persistently hyperthyroid, both clinically and biochemically, despite several months of carbimazole therapy at the maximum recommended doses. Prednisolone 30 mg per day was then given in addition to the antithyroid drug and a dramatic response was observed. Carbimazole has been used in the treatment of hyperthyroidism for over 50 years. Most patients respond within four to six weeks of initiating treatment and the dose is reduced to a maintenance level for a further 18 to 24 months. Rarely, patients are found not to respond to antithyroid drugs (carbimazole or propylthiouracil) and this imparts a difficult management problem. Such patients are usually thought to be non-compliant with their medication. Though glucocorticoids are often used in the management of thyroid crisis, they are not used routinely in the management of thyrotoxicosis. Here we report one patient who remained persistently thyrotoxic despite treatment with carbimazole at the recommended dose for five months.

[EDV 2017 January; 1 (1) : 19-21]

Key words: Thyrotoxicosis, Prednisolone, Carbimazole

Case Report

A 25-year-old woman had symptoms of thyrotoxicosis with palpitations, mood changes, heat intolerance, weight loss and inability to concentrate for five months. On examination she was lean (body mass index 17), and had sinus tachycardia with a heart rate of 148 beats/min. She had a diffuse goitre with no bruit and fine tremor of her hands, but no eye signs apart from lid lag. Her thyroid function tests confirmed hyperthyroidism with FT4 3.35ngm/dl (normal: 0.71-1.85 ng/dL), and TSH 0.003 mIU/mL (0.47-5.01 mIU/mL). Anti-TPO antibody was negative. Carbimazole 45 mg daily along with propranolol 120 mg/day were started but propranolol had to be discontinued due to respiratory wheeze. One and half months later she was still clinically thyrotoxic and her FT4 was 3.60 ng/dL and TSH 0.002 mIU/mL. The dose of carbimazole was increased to 60mg/day in three divided doses. After 1 month, she felt no improvement and her FT4 raised to 6.09 ng/dL and TSH to 0.002 mIU/mL. Noncompliance with

the prescribed medication was suspected. She and her attendant mother-in-law assured that she was taking her drugs regularly.

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1. *Dr Md. Shah Emran, Assistant Professor, Department of Endocrinology & Metabolism, Sylhet MAG Osmani Medical College, Sylhet, Bangladesh
 2. Dr Nasrin Jahan, Department of Obstetrics & Gynecology, Sylhet MAG Osmani Medical College, Sylhet, Bangladesh
 3. Dr Md. Qamrul Hassan, Assistant Professor, Department of Endocrinology & Metabolism, Rangpur Medical College, Bangladesh
 4. Dr Ranjon Kumar Roy, Department of Medicine, Sylhet MAG Osmani Medical College, Sylhet, Bangladesh

**for correspondence*

Oral prednisolone 30 mg per day was then started in addition to the carbimazole. There was marked improvement of her symptoms and within three weeks, she became euthyroid clinically. She was advised to continue the drugs with a view to give radioiodine treatment after normalization of FT4 level.

Discussion

Carbimazole is widely used in the management of hyperthyroidism. It acts by inhibiting the oxidation and organification of iodide^{1,2} as well as having an immunosuppressive effect upon the thyroid itself. It takes some months before the patient is rendered euthyroid; therefore compliance with treatment is essential. Failure to take the medication is generally thought to be the reason for lack of response to treatment, but the true prevalence of carbimazole resistance is unknown. There are few reports in the literature of patients not responding to the maximum recommended dose of 60mg carbimazole daily³. It is not clear why such patients do not respond. Our patient denied noncompliance. The patient had no chronic diarrhoea and no clinical evidence suggestive of malabsorption. Although it is possible to measure drug levels, this is rarely done in clinical practice and was not performed in my patient. However, the observation that the patient demonstrated significant improvement once given prednisolone suggests that compliance was unlikely to have been the problem. Before definitive treatment of thyrotoxicosis with radioiodine ablation and subtotal thyroidectomy it is necessary to control hyperthyroidism so as to reduce the risk of precipitating thyroid crisis¹. Hence patients not responding to carbimazole need further measures to reduce their serum free thyroxine concentration. In our patient we used prednisolone to good effect. The addition of prednisolone as an adjunct to carbimazole

produced significant clinical improvement. Prednisolone is not used as a mode of achieving euthyroid status in patients with hyperthyroidism, though it is often used in thyroid crisis¹. Studies have shown a rapid decline in serum thyroid hormone concentration following the acute administration of glucocorticoids^{4,5,6,7}. The effect of corticosteroids on the thyroid gland in hyperthyroidism is obscure. Graves' disease is an autoimmune disorder¹, both cell- and antibody-mediated⁸. The latter is a syndrome complex due to the action on the thyroid of IgG immunoglobulins that may be antibodies against components or regions of the thyroid plasma membrane, possibly regions that include the receptor for thyroid stimulating hormone itself. The more immediate effect of corticosteroid could be the inhibition of conversion of thyroxine to triiodothyronine in the peripheral tissue⁵, blocking the release of thyroxine from the thyroid. It may also lead to suppression of the immune response and hence decreased stimulation of the thyroid gland by the altered immune response and cell-mediated immunity. Thus, the reason why patients respond to corticosteroids could be two-fold. There are some patients who may benefit from the use of corticosteroids as an adjunct to antithyroid drugs in the treatment of hyperthyroidism. Such patients would include those in whom the response to carbimazole has been poor and also those patients in whom rapid remission of the disease is required, such as in the elderly and in patients with thyrotoxic heart disease. This case demonstrates the potential value of prednisolone in rapid control of thyrotoxicosis, where a decision has been made to proceed with definitive treatment such as radioiodine or surgery. Further studies are needed to see the effect of such immunosuppressive therapy in anti-thyroid drug non-responsive persistent hyperthyroidism.

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Anti-mullerian Hormone in Polycystic Ovarian Syndrome : Scope as a New Diagnostic Marker

***Tuqan S¹**

Polycystic ovarian syndrome (PCOS) affects 5-10% of women of reproductive age¹. This is the most common form of chronic anovulation associated with androgen excess. Patients have a wide diversity of presentations-oligoamenorrhea/amenorrhea, hirsutism, obesity, infertility, acne etc. The most distressing aspect of PCOS for any given patient may change over time from hirsutism as a teenager to infertility as a young adult. In spite of various diagnostic criteria, identification of this common disease is often confusing. Controversies still remain about the pathophysiology, diagnosis and treatment of PCOS.

Currently there are 3 widely accepted sets of criteria for diagnosis of PCOS^{2,3}. After excluding other causes of hyperandrogenism, National Institute of Health (NIH) criteria 1990 requires: i) evidence of hyperandrogenism (clinical or biochemical) and ii) evidence of anovulation or oligo-ovulation. Rotterdam consensus criteria (2003) added the presence of polycystic ovarian morphology (2 out of 3 need to be present). Later, Androgen Excess and PCOS society (2006) criteria considered polycystic ovarian morphology as an alternate evidence of ovarian dysfunction. They presumed PCOS more to be a manifestation of hyperandrogenism than ovarian dysfunction. In spite of all these criteria, diagnosis is still often in a dilemma. As because not all patients express hyperandrogenism. 75% of all anovulatory women may have polycystic appearing ovaries³. Therefore, a surrogate serum marker has long been looked for that, could precisely be suggestive of PCOS.

Lately, many studies had been conducted on anti-

mullerian hormone (AMH) in diagnosis of PCOS. AMH is a 140 k-Da dimeric glycoprotein hormone. It is secreted solely by granulosa cells of small pre-antral and antral ovarian follicles up to 9 mm in diameter⁴.

PCOS women have two to six-fold greater numbers of follicles in ovary. Circulating AMH level in PCOS women are found to be higher than in healthy controls⁵. In anovulatory women with PCOS, the follicular development is halted at 6-9mm diameter. These increased follicles contribute to the increased AMH, as well as AMH production per granulosa cells is also increased. A recent study showed AMH production in 75 times higher per granulosa cell in PCOS patients than granulosa cells of normal ovaries⁶. As a diagnostic marker of PCOS, AMH had relatively high specificity (92%) and sensitivity (67%)⁷. Serum AMH level is stable throughout the menstrual cycles with less intracyclic variations. Its level is unmodified by short-term oral contraceptives.

1. **Dr. Sadiqa Tuqan, Department of Medicine, Square Hospitals Ltd., Dhaka, Bangladesh
* for correspondence*

Recently, we conducted an observational study in BSMMU to measure AMH level in 80 PCOS patients and compare it with that of 80 healthy control women. We found significantly higher serum AMH level in PCOS patients than controls (holding cut off value of serum AMH at 3.5ng/ml)⁸.

The major limitation of performing AMH is high expense and limited availability of this test. However, further studies on larger population are needed to set cut-off value of AMH and its scope as a new diagnostic marker of PCOS.

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Patients with T2D Treated with Insulin Degludec/Liraglutide (IDeg-Lira) Have a Greater Chance of Reaching Glycemic Targets without Hypoglycemia and Weight Gain than with Insulin Glargine (IG)

*Amin F, Keya AD, Lingvay I, Norwood PC, Begtrup K, Langbakke IH, Perez Manghi FC

This post hoc analysis of DUAL V explored whether patients achieving glycemic targets (A1c <7% or a fasting plasma glucose [FPG] target of <130 mg/dl) also achieved composite endpoints relevant to diabetes management. DUAL V was a 26 wk open label, treat-to-target trial that randomized patients (n=557) with T2D uncontrolled (A1c 7-10%) on IG (20-50U) to either once-daily IDegLira (16 dose steps initially) or continued IG titration, both + Metformin. The odds of reaching a FPG target of <130 mg/dl or A1c <7% without hypoglycemia and/or weight gain are statistically significantly higher for

IDegLira vs. IG treated patients (Table). Across baseline A1c groups (??7.5, >7.5-??8.5 and >8.5%) more patients achieved A1c <7% (87% vs. 66%; 76% vs. 50%; 59% vs. 31%), A1c <7% with no hypoglycemia (67% vs. 45%; 55% vs. 30%; 47% vs. 19%) and A1c <7% with no hypoglycemia and no weight gain (51% vs. 25%; 39% vs. 11%; 32% vs. 5%) with IDegLira vs. IG (p<0.005 for all). Importantly, FPG and A1c were significantly reduced at wk 4, 8 and 12 with IDegLira vs. IG demonstrating glycemic control upon IDegLira initiation. This analysis suggests that the clinical advantages of IDegLira over IG in DUAL V would also be observed in clinical practice allowing patients to experience improvements in glycemic control without the detrimental effects of hypoglycemia or weight gain.

Data based on full analysis set and last

observation carried forward. Estimated odds ratio and p-values are from a logistic regression with treatment and region as fixed effects and baseline FPG/A1c (and body weight, where weight gain was included in the composite) as covariates.

*Confirmed

hypoglycemia was defined as requiring assistance or <56 mg/dl in the last 12 weeks of treatment; †from baseline to week 26; OR, odds ratio.

*Feroz Amin , Aparajita D. Keya , Ildiko Lingvay, Paul C. Norwood, Kamilla Begtrup, Irene H. Langbakke, Federico C. Pérez Manghi, Dhaka, Bangladesh, Dallas, TX, Fresno, CA, Søborg, Denmark, Buenos Aires, Argentina

Table. Proportion of Patients Reaching A1c Target or FPG Target by End of Trial without Confirmed Hypoglycemia* and/or Weight Gain†.

	Patients with T2D Treated with Insulin Degludec /Liraglutide (IDeg-Lira) Have a Greater Chance of Reaching Glycemic Targets without Hypoglycemia and Weight Gain than with Insulin Glargine(IG)		OR	95%CI	p value
	IDegLira	IG			
FPG <130 mg/dL	77.7	73.8	1.19	0.80;1.79	0.3864
FPG <130 mg/dl without confirmed hypoglycemia	57.9	40.9	1.95	1.38;2.76	<0.0001
FPG <130 mg/dl without weight gain	54.3	24.0	4.09	2.80;5.98	<0.0001
FPG <130 mg/dl without confirmed hypoglycemia and weight gain	41.4	14.3	4.55	2.96;6.98	<0.0001
A1c <7.0%	71.6	47.0	3.45	2.36;5.05	<0.001

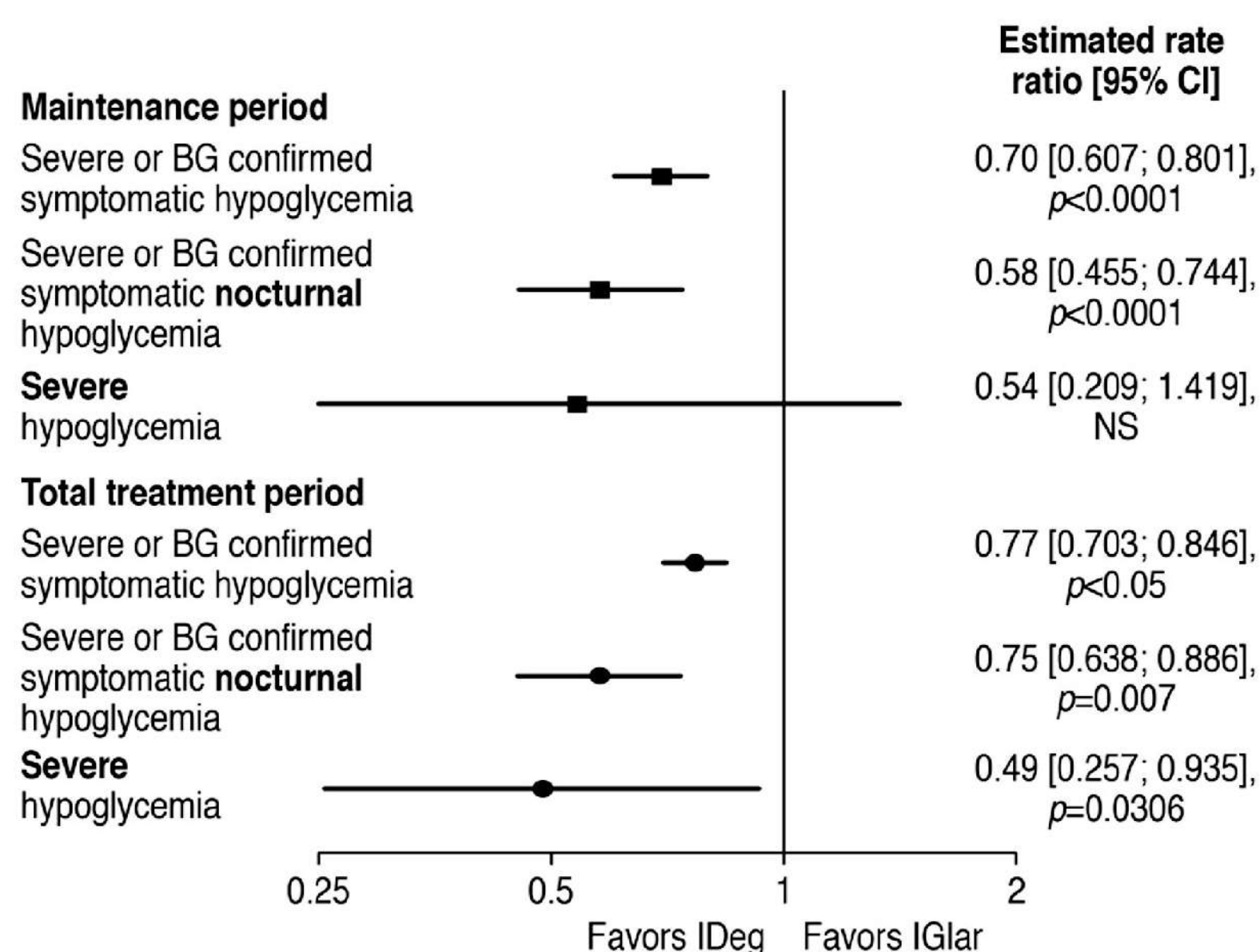
SWITCH 2: Reduced Hypoglycemia with Insulin Degludec (IDeg) vs. Insulin Glargine (IGlar), Both U100, in Patients with T2D at High Risk of Hypoglycemia: A Randomized, Double-Blind, Crossover Trial

*Hassan KA , Keya AD , Carol H. Wysham CH, Bhargava A, Chaykin LB, La Rosa RD, Handelsman Y, Troelsen LN, Kvist K, Norwood P

In this 2x 32-week, double-blind, treat-to-target crossover trial, adults (n=721) with T2D were randomized 1:1 to once-daily IDeg/IGlar followed by crossover to IGlar/IDeg. Each treatment period comprised a 16-week titration and 16-week maintenance period. Patients included were previously treated with basal insulin } oral antidiabetic drugs excluding sulfonylurea/ meglitinides, and at increased risk of developing hypoglycemia based on pre-trial risk factors. The primary endpoint was the number of severe (requiring third-party assistance and external adjudication) or blood glucose-confirmed (<56 mg/dL) symptomatic hypoglycemic events in the maintenance periods. Treatment with IDeg resulted in significantly lower rates of severe or confirmed symptomatic hypoglycemia and severe or confirmed symptomatic nocturnal hypoglycemia (occurring

00:01-05:59) vs.IGlar (Figure). The proportion of patients experiencing severe hypoglycemia in the maintenance periods was 1.6% for IDeg vs. 2.4% for IGlar (NS). Severe hypoglycemia rates were significantly lower with IDeg vs. IGlar in the total treatment period. A1c reductions with IDeg were non-inferior to IGlar. Adverse event rates were similar. Compared to IGlar, IDeg resulted in a consistent reduction in hypoglycemia in T2D patients at high risk of hypoglycemia.

*Kazi A. Hassan , Aparajita D. Keya , Carol H. Wysham, Anuj Bhargava, Louis B. Chaykin, Raymond De La Rosa, Yehuda Handelsman, Lone N. Troelsen, Kajsa Kvist, Paul Norwood, Dhaka, Bangladesh, Spokane, WA, Des Moines, IA, Bradenton, FL, Paducah, KY, Tarzana, CA, Søborg, Denmark, Fresno, CA



BG, blood glucose (<56 mg/dL); CI, confidence interval; IDeg, insulin degludec; IGlar, insulin glargine U100; NS, not significant. P-values derived using a Poisson model with logarithm of the exposure time (100 years) as offset; estimates adjusted for treatment, period, sequence and dosing time as fixed effects and subject as a random effect.

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