

Brittle T2DM

A hand is shown in the lower right corner, placing a white puzzle piece into a larger assembly of white puzzle pieces. The background is a blurred image of a blue sky with white clouds and a green field. The text "Case 1" and "T2DM with HD" is overlaid on the image in a bold, black, sans-serif font.

Case 1

T2DM with HD

Case 1

- **T2DM Dx 2544, mild NPDR**
- **HT, DLP, AF, CA colon**
- **ESRD on HD Tuesday, Saturday 14.00-18.00**
- **ทานนมก่อน HD**
- **ทานอาหาร 8.00 12.00 18.00 น.**
- **HbA1c 8.0, 10.0, 10.6, 9.7, 9.5, 9.6 %**

	11/12/61	12/3/62	3/5/62		
FPG	-	223	148		
A1c	10.6	9.7	9.6		
Hb	11.3	11.7	12.3		
Hemax /wk	4,000	4,000	3,000 u (27/3/62)		
Hypogly symptom	no	no	no		
SMPG	ac am 100- 300	??	??		
BIA					
No HD	24-0-14	22-0-14			
HD	18-0-10	18-0-6			

- **BIA = Biphasic Insulin Aspart**

	11/12/61	12/3/62	3/5/62	21/6/62	4/10/62
FPG	-	223	148	184	
A1c	10.6	9.7	9.6	7.5	
Hb	11.3	11.7	12.3	12.4	
Hemax /wk	4,000	4,000	3,000 u (27/3/62)	2,000 u (10/7/62)	
Hypogly symptom	no	no	no	no	
SMPG	ac am 100- 300	??	??	106, 58, 77	
BIA					
No HD	24-0-14	22-0-14	22-12-8		
HD	18-0-10	18-0-6	22-0-8		
Advise			Carb count, SMPG qid ac		

- **BIA = Biphasic Insulin Aspart**

	11/12/61	12/3/62	3/5/62	21/6/62	4/10/62
FPG	-	223	148	184	188
A1c	10.6	9.7	9.6	7.5	7.4
Hb	11.3	11.7	12.3	12.4	12.0
Hemax /wk	4,000	4,000	3,000 u (27/3/62)	2,000 u (10/7/62)	2,000 u
Hypogly symptom	no	no	no	no	no
SMPG	ac am 100- 300	??	??	106, 58, 77	Next slide
BIA					
No HD	24-0-14	22-0-14	22-12-8	22-12-8	
HD	18-0-10	18-0-6	22-0-8	22-0-8	
Advise			Carb count, SMPG qid ac	Hypoglycemia correction, Sick day rule	

- **BIA = Biphasic Insulin Aspart**

Day after HD

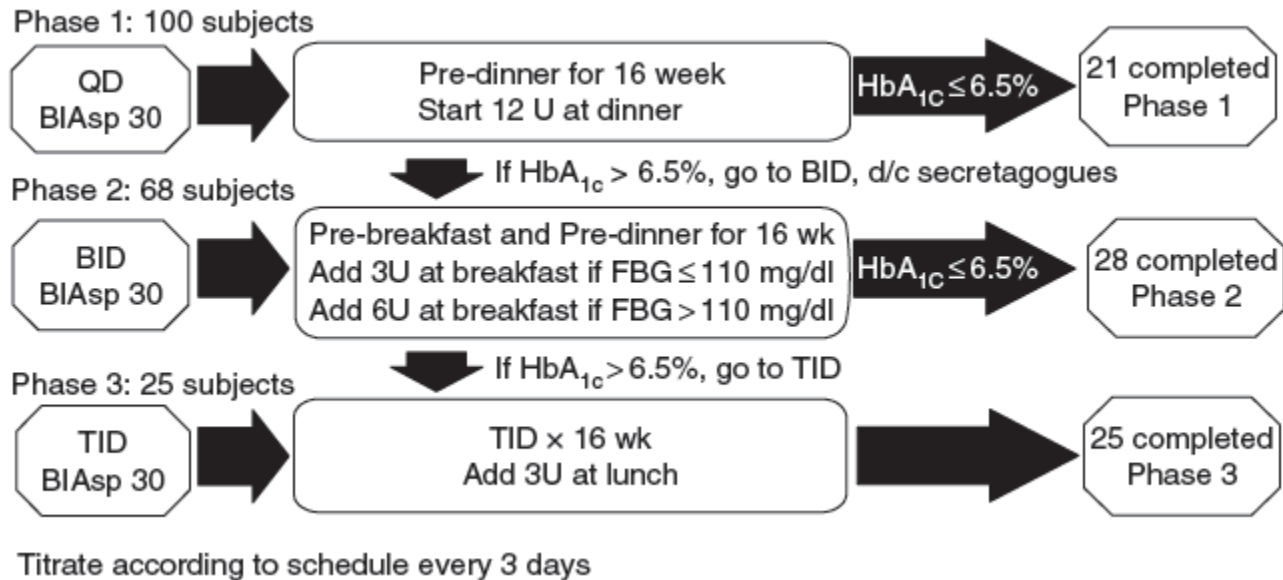
ac am	23/6	28/6	3/7	5/7	16/7	21/7
SMPG	255	90	254	135	237	159
	23/7	30/7	6/8	12/8	22/8	27/8
SMPG	108	94	142	177	99	101
	3/9	9/9				
SMPG	87	204				

ผลการตรวจน้ำตาลใน เลือด ปัสสาวะ								
วันที่	มือเช้า		มือเที่ยง		มือเย็น		ก่อนนอน	
	ก่อน	หลัง	ก่อน	หลัง	ก่อน	หลัง		
10/9/69	86							HD
10/9						128		
13/9	95							
19/9	82							
25/9								95
2/10	221							HD

	11/12/61	12/3/62	3/5/62	21/6/62	4/10/62
FPG	-	223	148	184	188
A1c	10.6	9.7	9.6	7.5	7.4
Hb	11.3	11.7	12.3	12.4	12.0
Hemax /wk	4,000	4,000	3,000 u (27/3/62)	2,000 u (10/7/62)	2,000 u
Hypogly symptom	no	no	no	no	no
SMPG	ac am 100- 300	??	??	106, 58, 77	Next slide
BIA					
No HD	24-0-14	22-0-14	22-12-8	22-12-8	22-12-8
HD	18-0-10	18-0-6	22-0-8	22-0-8	22-0-8
Advise			Carb count, SMPG qid ac	Hypoglycemia correction, Sick day rule	Carb count

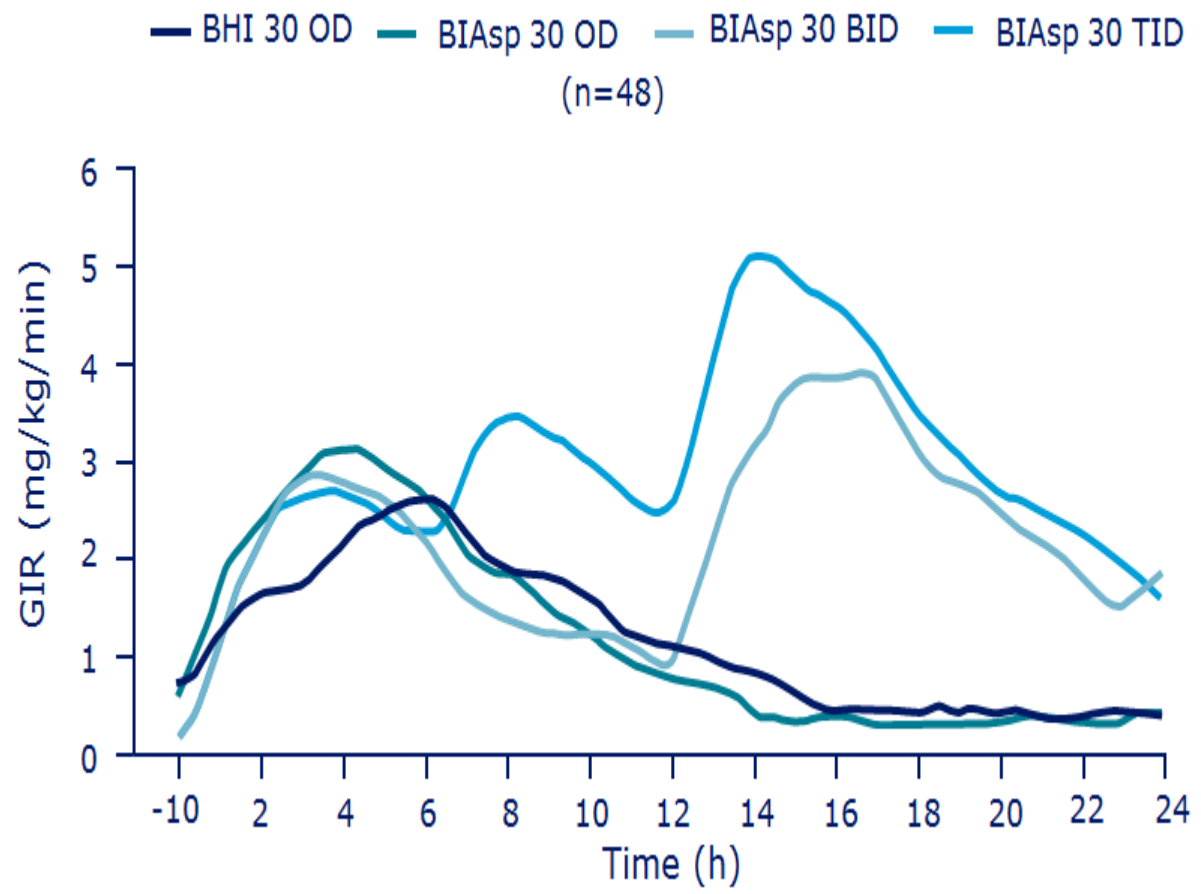
- **BIA = Biphasic Insulin Aspart**

The 1-2-3 study



- No controlled group, nonrandomized
- Addition of once-daily BIAsp 30 before dinner, bid and tid enabled 41%, 70%, 77% to achieve $HbA_{1c} < 7\%$, respectively
- For patients achieving target in Phase 3, insulin ratio =38:16:46%

PD profile of BIAsp 30 OD, BID and TID, and BHI 30 OD



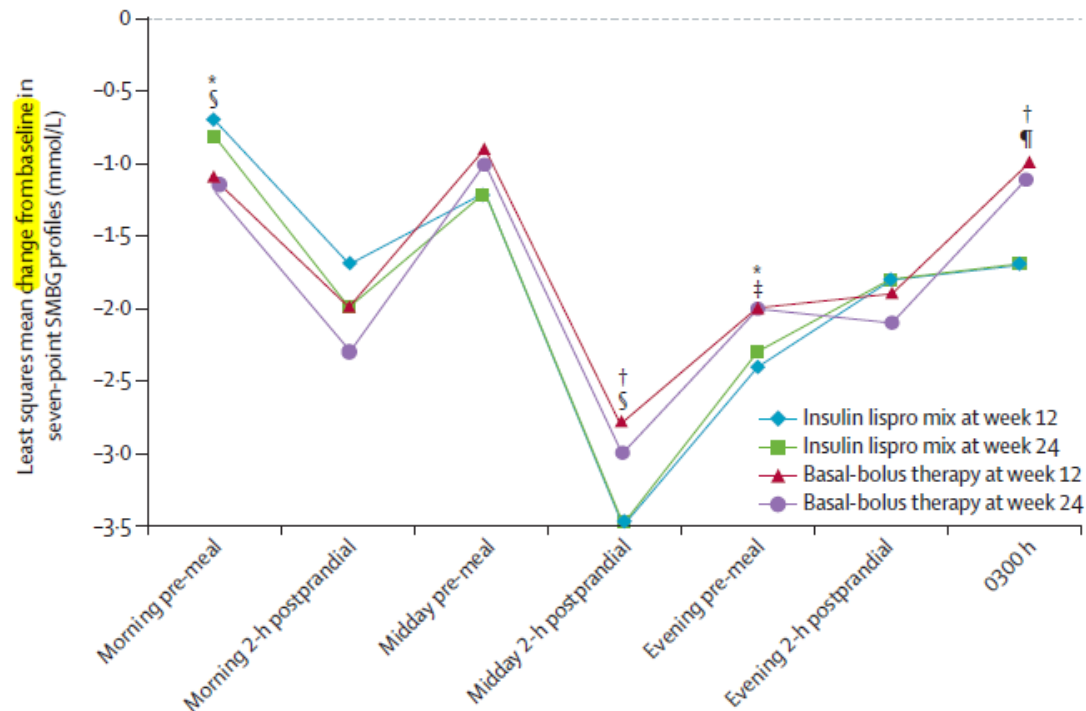
BHI, biphasic human insulin; BIAsp 30, biphasic insulin aspart 30; BID, twice daily; GIR, glucose infusion rate; OD once daily; PD, pharmacodynamic; TID, three-times daily

Adapted from Heise *et al. Diabetes Care* 2009;32:1431-3

LM 50-50-25 vs glargine od + lispro tid 24 wk

- **China, Taiwan, and South Korea**
- **HbA1c of 7.0–12.0% while taking BHI or BIA bid**
- **Exclude OHD except MFM and AGI**
- **LM 50 sc before breakfast and lunch**
- **LM 25 sc before dinner**
- **Initial TDD = Baseline, divided into three equal doses**

LM 50-50-25 vs glargine od + lispro tid 24 wk



- Goal premeal < 110, 2hr PG <140 mg/dL
- Only one prandial insulin dose was increased at a time
- BL A1c 8.6-8.7%, HbA1c change at week 24 was -1.1% for both treatment groups. $\Delta A1c=0\%$ (95% CI -0.1 to 0.2). NI margin 0.4%


LM 50-50-25 vs glargine od + lispro tid 24 wk


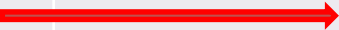

	Premix group (n=197)	Basal-bolus group (n=202)	p value
Overall hypoglycaemia			
Incidence	108 (55%)	111 (55%)	..
Number of episodes	519	446	..
Rate (number of episodes per patient per 30 days)	0.47 (1.04)	0.41 (0.67)	0.148
Nocturnal hypoglycaemia			
Incidence	27 (14%)	22 (11%)	..
Number of episodes	37	44	..
Rate (number of episodes per patient per 30 days)	0.03 (0.09)	0.05 (0.21)	0.235

- **Twice-daily premixed insulin were selected as a starter insulin regimen taking into account the pathophysiological traits, the high carbohydrate diet, the late diagnosis of disease, and the late insulin initiation**



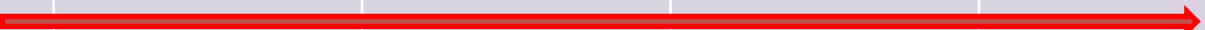


Case 2
T2DM in the young

- 
- **21-year-old obese female with T2DM**
 - **DM was diagnosed at the age of 17 years old**
 - **Subclinical hypothyroidism**
 - **Poor compliance**
 - **Bestatin(20) 1x1 pc pm, Euthyrox(0.1) 1/2x1 ac**
 - **TSH 0.5**

	3/8/61	6/10/61	16/12/61		
BW	76.5	79.7	78.6		
BP	127/78	124/78	131/82		
FPG	181	105	214		
A1c	10.2	8.0	9.4		
Cr		0.45			
MAU/Cr		13.4			
Glipizide	2x2 				
MFM500	2x2/dia 				
Utmos30	1x1 				
Glargine	Start 15 u pm	18 u pm			
อาหาร	3 มื้อ	3 มื้อ	12.00, 17.00		
	ลิมทานยาหลัง อาหาร	ยาเหลือเยอะ	ทาน glipizide ไม่คงที่		

ตรวจนอกเวลาอาทิตย์เช้า

	3/8/61	6/10/61	16/12/61	3/3/62	25/5/62
BW	76.5	79.7	78.6	84.5	84.4
BP	127/78	124/78	131/82	116/70	123/76
FPG	181	105	214	93	80
A1c	10.2	8.0	9.4	8.7	9.9
Cr		0.45			0.51
MAU/Cr		13.4			
Glipizide	2x2 		off		
MFM500	2x2/dia 				
Utmos30	1x1 				
Glargine	Start 15 u	18 u	off		
Ryzodec			18-0-18	22-0-22	Mx?
อาหาร	3 มื้อ	3 มื้อ	12.00, 17.00		12.00, 18.00
	ลิมทานยาหลัง อาหาร	ยาเหลือเยอะ	ทาน glipizide ไม่คงที่	ลิมฉีดยา 3-4 ครั้ง/เดือน หากระเป่า	มะม่วง Mx?

จิตเวช **start Fulox 1*1**

	25/5/62	11/8/62	27/10/62	
BW	84.4	83.3	84.2	
BP	123/76	134/75	127/79	
FPG	80	106	139	
A1c	9.9	6.7	6.9	
Cr	0.51		0.56	
MFM500	2x2/dia	2x2/dia	2x2/dia	
Utmos30	1x1	1/2x1	Off	
Ryzodec	22-0-22 sample <small>หมด</small>			
Mixtard	34-0-16	34-0-16	34-0-16	
	↓ 20% D1-3			
อาหาร	12.00, 18.00			
	มะม่วง Consult psychi			

Any Questions?