

Impact of Initial Treatment Policies on Long-term Complications and Costs in Japanese Type 2 Diabetes Patients: A Real-world Database Study

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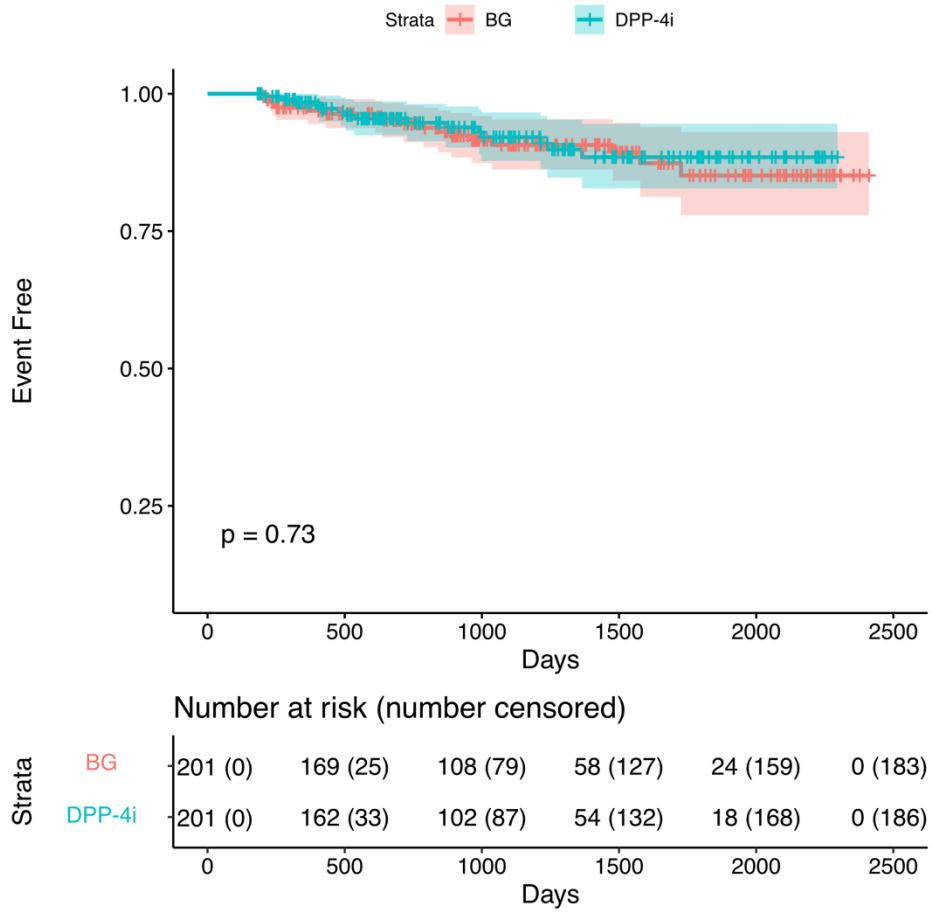
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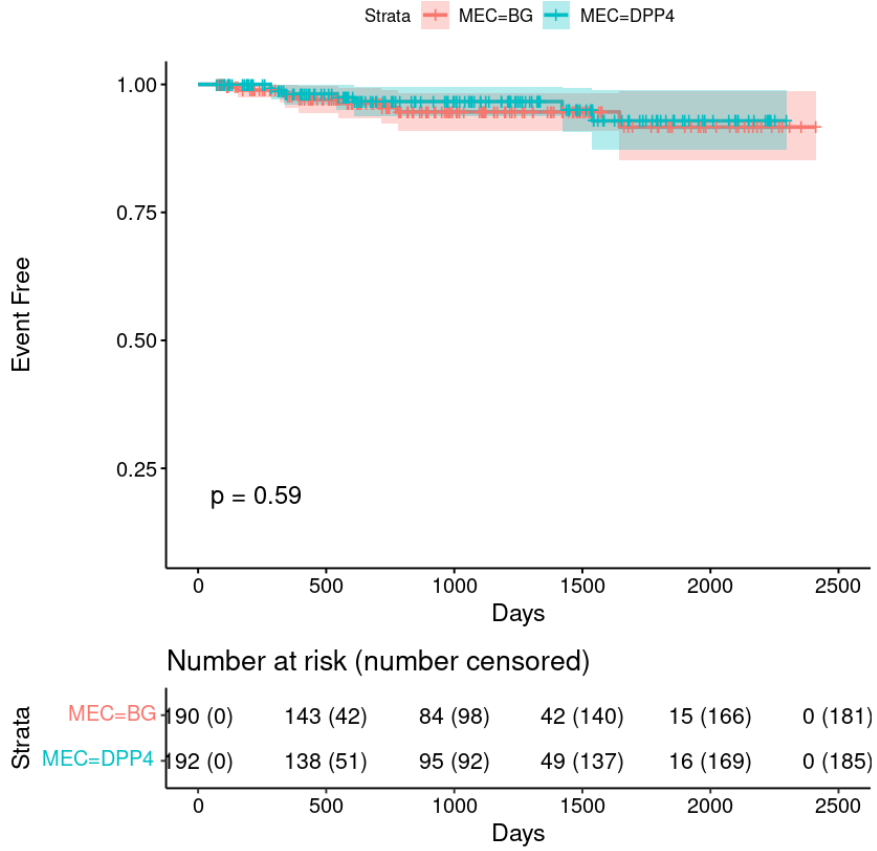
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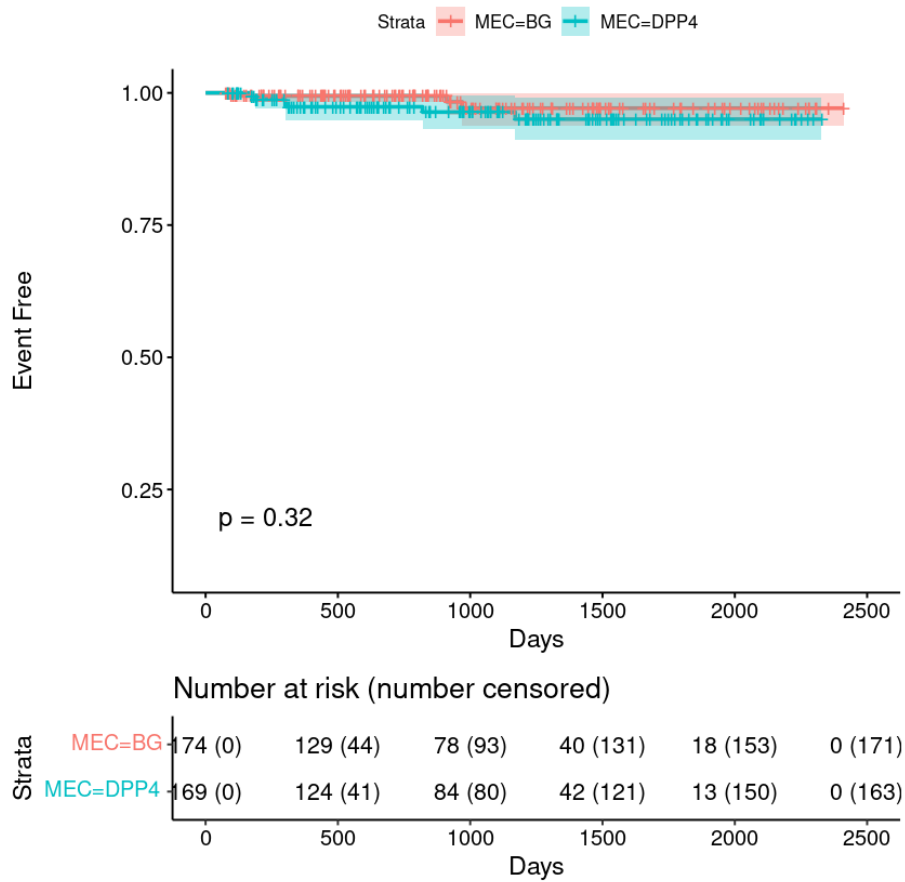
Supplementary Figure S1. Results of sensitivity analysis



Supplementary Figure S2. Survival analysis of cardiac events



Supplementary Figure S3. Survival analysis of hepatic events



Supplementary Table S1. List of diabetes-related complications

Event category	Event name	ICD-10
Renal complications	Diabetic Nephropathy	E142
	Type 2 Diabetic Nephropathy	E112
	Type 2 Diabetic Glomerulosclerosis	E112
	Type 2 Diabetic Renal Failure	E112
	Diabetic Kidney Disease	E142
	Kimmelstiel-Wilson Syndrome	E142
	Acute Tubular Necrosis	N170
	Acute Renal Failure	N179
	Chronic Kidney Disease	N289
	End-Stage Renal Disease	N180
	Renal Anemia	N19
	Renal Osteodystrophy	E146

	Renal Edema	R609
Neurological complications	Type 2 Diabetic Myopathy	E114
	Type 2 Diabetic Neuropathy	E114
	Type 2 Diabetic Polyneuropathy	E114
	Type 2 Diabetic Mononeuropathy	E114
	Type 2 Diabetic Peripheral Neuropathy	E114
	Type 2 Diabetic Neurogenic Bladder	E114
	Type 2 Diabetic Neuralgia	E114
	Type 2 Diabetic Autonomic Neuropathy	E114
	Type 2 Diabetic Muscle Atrophy	E114
	Diabetic Neuropathic Pain	E144
	Diabetic Neuropathy	E144
	Diabetic Polyneuropathy	E144
	Diabetic Mononeuropathy	E144
	Diabetic Peripheral Neuropathy	E144
	Diabetic Autonomic Neuropathy	E144
	Diabetic Neuralgia	E144
	Diabetic Muscle Atrophy	E144
	Uremic Neuropathy	N188
	Uremic Polyneuropathy	N188
	Vascular complications	Type 2 Diabetic Peripheral Vascular Disease
Type 2 Diabetic Arteriosclerosis		E115
Type 2 Diabetic Arterial Occlusion		E115
Type 2 Diabetic Vascular Damage		E115
Type 2 Diabetic Peripheral Arterial Disease		E115
Type 2 Diabetic Gangrene		E115
Type 2 Diabetic Ulcer		E115
Diabetic Arterial Occlusion		E145
Diabetic Gangrene		E145
Diabetic Vascular Damage		E145
Diabetic Peripheral Vascular Disease		E145
Diabetic Peripheral Arterial Disease		E145
Diabetic Ulcer		E145
Diabetic Arteriosclerosis		E145
Ocular complications	Type 2 Diabetic Retinopathy	E113
	Type 2 Diabetic Maculopathy	E113
	Type 2 Diabetic Eye Muscle Paralysis	E113
	Type 2 Diabetic Iritis	E113
	Type 2 Diabetic Central Retinalopathy	E113

	Proliferative Diabetic Retinopathy with Type 2 Diabetes	E113
	Type 2 Diabetic Cataract	E113
	Type 2 Diabetic Macular Edema	E113
	Diabetic Maculopathy	E143
	Diabetic Retinopathy	E143
	Diabetic Iritis	E143
	Diabetic Cataract	E143
	Proliferative Diabetic Retinopathy	E143
	Diabetic Central Retinopathy	E143
	Diabetic Eye Muscle Paralysis	E143
	Diabetic Macular Edema	E143
	Renal Retinopathy	N188
Skin complications	Type 2 Diabetic Dermopathy	E116
	Type 2 Diabetic Pruritus	E116
	Type 2 Diabetic Bullae	E116
	Type 2 Diabetic Scleredema	E116
	Diabetic Dermopathy	E146
	Diabetic Pruritus	E146
	Diabetic Bullae	E146
	Diabetic Scleredema	E146
Other complications	Type 2 Diabetes with Comorbidities	E116
	Type 2 Diabetic Hyperosmolar Hyperglycemic Syndrome	E116
	Type 2 Diabetic Gastroenteropathy	E116
	Type 2 Diabetic Mental Disorders	E116
	Type 2 Diabetic Liver Disorders	E116
	Type 2 Diabetic Arthropathy	E116
	Type 2 Diabetic Hypercholesterolemia	E116
	Hyperosmolar Nonketotic Coma	E140
	Diabetic Coma	E140
	Shock Kidney	N170
	Acute Prerenal Renal Failure	N178
	Acute Postrenal Renal Failure	N178
	Acute Uric Acid Nephropathy	N179
	Acute Cortical Necrosis	N171
	Medullary Necrosis	N172
	Papillary Necrosis	N172
	Uremic Myocarditis	N188
	Uremic Pneumonia	N188
	Uremic Encephalopathy	N188

Uremic Pericarditis	N188
Adrenal Insufficiency	E274
Adrenal Hyperfunction	E270
Adrenal Medullary Hyperfunction	E275
Adrenal Crisis	E272
Renal Failure	N19
Nonfunctional Kidney	N19

Supplementary Table S2. List of hepatic events

Event name	ICD-10
Cirrhosis	K741
Liver Infarction	K763
Liver Cirrhosis	K746
Hepatocellular Jaundice	K729
Liver Disease	K769
Anemia Associated with Liver Disease	K769
Perihepatic Abscess	K750
Hepatic Hemorrhage	K768
Hepatic Tumor	K768
Liver Disorder	K769
Primary Biliary Cirrhosis	K743
Zieve's Syndrome	K700
Autoimmune Hepatitis	K754
Cholestatic Hepatitis	K758
Biliary Cirrhosis	K745
Unilobular Cirrhosis	K743
Macronodular Cirrhosis	K746
Compensated Cirrhosis	K746
Decompensated Cirrhosis	K746
Nonspecific Reactive Hepatitis	K752
Nodular Cirrhosis	K746
Acute Hepatic Atrophy	K720
Acute Hepatitis	K720
Acute Liver Failure	K720
Acute Drug-Induced Liver Failure	K711
Alcoholic Hepatitis	K701
Alcoholic Cirrhosis	K703
Alcoholic Liver Disease	K709
Alcoholic Liver Failure	K704

Alcoholic Fatty Liver	K700
Allergic Hepatitis	K768
Atrophic Cirrhosis	K746
Subacute Alcoholic Liver Failure	K704
Subacute Hepatitis	K720
Congestive Liver	K761
Congestive Hepatitis	K759
Congestive Cirrhosis	K761
Nutritional Cirrhosis	K746
Post-necrotic Cirrhosis	K746
Acute Alcoholic Hepatitis	K701
Acute Alcoholic Liver Failure	K704
Multiple Hepatic Abscesses	K750
Hepatic Vein Thrombosis (Budd-Chiari Syndrome)	K765
Hepatorenal Syndrome	K767
Hepatic Coma	K729
Hepatic Encephalopathy	K729
Liver Fibrosis	K740
Hepatic Purpura	K764
Intrahepatic Cholestasis	K710
Intrahepatic Obstructive Jaundice	K710
Hepatic Cyst	K768
Hepatic Abscess	K750
Hepatic Edema	K768
Liver Failure	K729
Cruveilhier-Baumgarten Syndrome	K766
Fatty Liver	K760
Charcot's Cirrhosis	K743
Mixed Cirrhosis	K746
Bacterial Hepatic Abscess	K750
Cholangitic Hepatic Abscess	K750
Cholangiocellular Cirrhosis	K745
Persistent Hepatitis	K739
Micronodular Cirrhosis	K746
Pediatric Hepatitis	K759
Multiple Hepatic Hemangiomas	K764
Lipoid Hepatitis	K754
Idiopathic Cirrhosis	K746
Idiopathic Portal Hypertension	K766
Todd's Cirrhosis	K743

Granulomatous Hepatitis	K753
Secondary Biliary Cirrhosis	K744
Infantile Hepatitis	K759
Septal Cirrhosis	K746
Central Hemorrhagic Liver Necrosis	K762
Toxic Hepatitis	K716
Toxic Hepatic Localized Nodular Hyperplasia	K718
Toxic Liver Injury	K719
Toxic Hepatic Venous Occlusive Disease	K718
Toxic Hepatic Purpura	K718
Toxic Hepatic Granuloma	K718
Chronic Alcoholic Liver Failure	K704
Chronic Hepatitis	K739
Exacerbation of Chronic Hepatitis	K739
Chronic Liver Failure	K721
Chronic Persistent Hepatitis	K730
Obstructive Cirrhosis	K744
Chronic Inactive Hepatitis	K738
Chronic Nonsuppurative Destructive Cholangitis	K743
Chronic Drug-Induced Liver Failure	K711
Portal Hypertension	K766
Pylephlebitis	K751
Pylephlebitic Hepatic Abscess	K750
Portal Vein Dilatation	K766
Periportal Cirrhosis	K746
Portal Cirrhosis	K746
Drug-Induced Hepatitis	K716
Drug-Induced Liver Injury	K719
Alcohol-Related Liver Damage	K709
Chronic Alcohol-Related Liver Damage	K709
Non-Alcoholic Steatohepatitis (NASH)	K760
Decompensated Alcoholic Cirrhosis	K703
Esophageal Varices Associated with Alcoholic Cirrhosis	K703
Esophageal Varices Associated with Cirrhosis	K746
Portal Hypertensive Gastroenteropathy	K766
Portal Hypertensive Enteropathy	K766
Shock Liver	K768
Byler Disease	K710
Hepatic Hydrothorax	K769
Portal Hypertensive Gastropathy	K766

Symptomatic Primary Biliary Cirrhosis	K743
Acute Liver Failure with Coma	K720
Hepatopulmonary Syndrome	K768
Progressive Familial Intrahepatic Cholestasis	K710
Progressive Familial Intrahepatic Cholestasis Type 1	K710
Progressive Familial Intrahepatic Cholestasis Type 2	K710
Progressive Familial Intrahepatic Cholestasis Type 3	K710
Chronic Drug-Induced Hepatitis	K713
Asymptomatic Primary Biliary Cirrhosis	K743
Acute Drug-Induced Hepatitis	K712
Fulminant Drug-Induced Hepatitis	K711
Alcoholic Liver Fibrosis	K702
Hepatic Granuloma	K753
Autoimmune Cirrhosis	K746
Severe Autoimmune Hepatitis	K754
Primary Sclerosing Cholangitis	K743
Symptomatic Primary Sclerosing Cholangitis	K743
Asymptomatic Primary Sclerosing Cholangitis	K743
Drug-Induced Cirrhosis	K717
Esophageal Variceal Bleeding Associated with Alcoholic Cirrhosis	K703
Esophageal Variceal Bleeding Associated with Cirrhosis	K746
Esophageal Varices Associated with Primary Sclerosing Cholangitis	K743
Esophageal Variceal Bleeding Associated with Primary Sclerosing Cholangitis	K743
Hepatic Central Vein Occlusion	K768
Active Chronic Hepatitis	K732
Pyogenic Liver Abscess	K750
Hepatic Atrophy	K729
Hepatic Necrosis	K729
Post-hepatitic Cirrhosis	K746
Hepatoptosis	K768
Hepatic Dysfunction	K769
Hepatic Localized Nodular Hyperplasia	K768
Hepatitis	K759

Supplementary Table S3. List of cardiac events

Event name	ICD-10
Effort and Rest Angina	I208
Effort Angina	I208
Microvascular Angina	I208

Stable Angina	I209
Crescendo Angina	I200
Intermediate Angina	I200
Intermediate Coronary Syndrome	I200
Worsening Effort Angina	I200
Angina Pectoris	I209
Initial Effort Angina	I200
Acute Myocardial Infarction	I219
Acute Apical Lateral Myocardial Infarction	I212
Acute Subendocardial Myocardial Infarction	I214
Posterior Wall Myocardial Infarction	I219
Acute Lateral Myocardial Infarction	I212
Acute Anterior Septal Myocardial Infarction	I210
Acute Anteroapical Myocardial Infarction	I210
Acute Anterior Myocardial Infarction	I210
Acute Posterolateral Myocardial Infarction	I212
Inferior Wall Myocardial Infarction	I219
Acute Inferoposterior Myocardial Infarction	I211
Acute Anterolateral Myocardial Infarction	I210
Right Ventricular Infarction	I219
Acute Septal Myocardial Infarction	I212
Acute Posterior Basal Myocardial Infarction	I212
Anterior Septal Myocardial Infarction	I219
Acute Right Ventricular Infarction	I212
Acute Extensive Anterior Myocardial Infarction	I210
Myocardial Infarction	I219
Acute Inferior Myocardial Infarction	I211
Acute Posterior Myocardial Infarction	I212
Acute Inferolateral Myocardial Infarction	I211
Acute Posterior Septal Myocardial Infarction	I212
Acute Basal Lateral Myocardial Infarction	I212
Acute High Lateral Myocardial Infarction	I212
Anterior Myocardial Infarction	I219
Reversible Ischemic Neurologic Deficit	G459
Transient Ischemic Attack (TIA)	G459
Ischemic Stroke	I639
Venous Cerebral Infarction	I636
Pontine Infarction	I635
Cestan Syndrome	I630
Atherothrombotic Brain Infarction - Chronic Phase	I633

Brainstem Infarction	I635
Atherothrombotic Brain Infarction - Acute Phase	I633
Cerebellar Infarction	I635
Atherothrombotic Brain Infarction	I633
Extracranial Major Arterial Thrombosis Stroke	I630
Cortical Branch Infarction	I635
Top of the Basilar Syndrome	I635
Cerebral Infarction	I639
Cerebrovascular Occlusive Stroke	I635
Extracranial Main Arterial Embolism Stroke	I631
Medullary Infarction	I635
Cerebral Infarction - Acute Phase	I639
Extracranial Main Arterial Occlusion Stroke	I632
Medullary Infarction - Chronic Phase	I635
Penetrating Branch Infarction	I635
Watershed Infarction	I638
Embolic Cerebellar Infarction - Chronic Phase	I634
Embolic Cerebellar Infarction - Acute Phase	I634
Embolic Cerebellar Infarction	I634
Cestan-Chenais Syndrome	I630
Thrombotic Cerebellar Infarction	I633
Pontine Infarction - Acute Phase	I635
Embolic Stroke - Acute Phase	I634
Thrombotic Stroke	I633
Embolic Stroke - Chronic Phase	I634
Brainstem Infarction - Acute Phase	I635
Brainstem Infarction - Chronic Phase	I635
Medullary Infarction - Acute Phase	I635
Embolic Stroke	I634
Cerebral Infarction - Chronic Phase	I639
Pontine Infarction - Chronic Phase	I635