

出國報告（其他類別：國際會議）

第 56 屆歐洲糖尿病學會年會
線上會議

European Association for the Study of Diabetes
2020

服務機關：臺中榮民總醫院埔里分院

姓名職稱：賴韻如 主治醫師

派赴國家/地區：線上會議

出國期間：2020/9/21-2020/9/25

報告日期：2020/10/06

目 次

| | |
|----------|---|
| 摘要 | 1 |
| 目的 | 1 |
| 過程 | 1 |
| 心得 | 2 |
| 建議 | 2 |
| 附錄 | 3 |

一、摘要

歐洲糖尿病學會(European Association for the Study of Diabetes, EASD)是一個非盈利的醫學科學學會。它成立於 1965 年，總部設在德國杜塞爾多夫(Düsseldorf)。

EASD 是世界上最大的糖尿病專家網路之一，擁有來自世界 130 多個國家的 5000 多名活躍會員。會員包括來自世界各地對糖尿病或相關疾病感興趣的科學家、醫生、學生、博士後和研究員、專職衛生專業人員和護士、衛教師。EASD 旨在通過提供有關糖尿病研究的進展和資訊，提供糖尿病科學研究、教育、診療技術發展、進而達到預防和治療糖尿病、改善糖尿病患者生活品質的目標。

2020 年 9 月 21 日~25 日，歐洲糖尿病研究協會年會(EASD)第 56 屆科學年會因應新冠肺炎疫情，改為線上會議。年會聚集來自全世界 130 多個國家、參與糖尿病研究和管理的 15,000 餘名科學家和醫療專業人員。年會以糖尿病基礎科學及預防、診斷和治療中的重大進展為特色，內容涵蓋糖尿病領域的各種研究。

二、目的

本次參加 EASD 第 56 屆科學年會線上會議，旨在代表醫院參加國際糖尿病會議，促進國際交流與合作研究，提升醫院學術地位及聲譽。

三、過程

本屆年會在 EASD 名譽主席 Stefano Del Prato 的帶領下，大會組委會共計從投稿的兩千多篇摘要中篩選出一千多篇展示糖尿病領域的最新成果。大會內容形式多樣豐富多彩，既包括精彩激烈的專題討論，又包括口頭及壁報展示，旨在表彰傑出研究人員突出成就的幾大獲獎講座更是值得期待、不容錯過。

2020 歐洲糖尿病研究協會 (EASD) 年會公布了 DiRECT(Diabetes UK-funded Diabetes Remission Clinical Trial)研究結果。研究顯示，逆轉的糖尿病病人胰腺在逐步恢復正常的形態與大小，說明了 2 型糖尿病的逆轉不僅是功能的恢復，在生理形態也在恢復，有機會走向治癒。英國糖尿病協會研究主席 Robertson 博士甚至表示：2 型糖尿病不是終身性疾病！

一、第 2 型糖尿病人的胰腺比正常人小

根據研究開始的檢查，2 型糖尿病人的胰腺的尺寸減小、形態異常。與血糖正常的對照組相比，2 型糖尿病患者的胰腺平均小 20%（對照組平均為 80 立方厘米，糖尿病組為 64 立方厘米），而且胰腺邊界也不規則。這些從大小、形態的改變，說明 2 型糖尿病人的胰腺的整體功能要比正常人顯著不足。過去我們推出肥胖的 2 型糖尿病病人應該肥大，類似脂肪肝一樣，但是這項研究發現胰腺是萎縮了。

二、胰腺恢復需要漫長的 2 年時間

研究發現，就算經過 5 個月的減肥，血液檢查發現胰島分泌已經達標，但是胰腺體積沒有出現明顯變化。但是，經過兩年的恢復，逆轉的糖尿病人的胰腺體積從 63 立方厘米增加到了 76 立方厘米，而且脂肪含量也從 1.6% 減少到了 0.5%，接近正常水平。同時，血液檢查也發現，胰島 β 細胞的功能在持續改善，胰島素（特別是第一時相，也就是餐後迅速釋放）釋放增加。也就是說，第 2 型糖尿病病人通過逆轉，胰腺從功能到形態都恢復了，但是需要長期堅持。

四、心得

本次會議的參與，除了吸收新知，了解最新的研究發展方向，也增進與世界各地的專家學者之交流，尋找未來研究方向與合作機會。透過了意見的交換，提昇國際視野，體察了先端研究之方向及進展，收穫匪淺。不論是基礎研究、流行病學研究、藥物研發、血糖監測系統，均有日新月異的進展，讓我深深體會到學如逆水行舟，不進則退，未來需要更加持續努力，才能跟上世界的進步與發展。

五、建議

有此機會參與本次國際研討會議，所吸收到的經驗與新知，十分寶貴，將落實於日後的醫療照護與醫學研究。因此，建議本院人員有機會多多參加國內和國際的大型會議，相信對自己的研究領域、論文撰述能力與活動實施將有實質助益，同時，更能透過交流與互動，進一步擴大國際視野與世界觀。

六、附錄

海報論文：

Association between exercise capacity and all-cause mortality in people with type 2 diabetes

Yun-Ju Lai, Yung-Feng Yen, Li-Jung Chen, Po-Wen Ku, Chu-Chieh Chen, Yu-Kai Lin
Division of Endocrinology and Metabolism, Department of Internal Medicine, Puli Branch of Taichung Veterans General Hospital, Nantou, Taiwan

Background and aims:
Exercise improves cardiovascular risk factors in type 2 diabetes, and reduces the risk of cardiovascular disease. The effect of exercise capacity on all-cause mortality in type 2 diabetes has not been fully explored. We aimed to investigate association between exercise capacity and all-cause mortality in people with type 2 diabetes.

Methods and methods:
Data extracted from the National Health Interview Survey and the National Health Insurance Research Database were used to study the relationship between characteristics including socioeconomic status and health behaviour were compared by stratified Date of interview in 2001, 2002, 2006, and 2010. Participants were followed up until December 31, 2016.

Information about physical activity during leisure time was collected by asking the question "How often do you exercise every week? What kind of exercises do you do? How long do you do the exercises?" and calculated using the equation: number of minutes per week × frequency per week × intensity per minute. Frequency was categorized as never, less than once a month, 1–3 times a month, 1–3 times a week, 4–6 times a week, and ≥7 times a week. From the Health Care Insurance Information Database, diagnosis of the National Health Insurance Research Database was compared with the International Classification of Diseases, 9th Revision Clinical Modification (ICD-9-CM). All-cause mortality was assessed by a national register, Taiwan Mortality Statistics from 2001 to 2016.

Results:
Initial 4,500 adult participants with type 2 diabetes were evaluated, 2,050 (45.5%) were male and with a mean (SD) age of 59.5 (10.5) years. During the study period from 2001 to 2016, 666 deaths were confirmed.

Figure 1 shows curves of all-cause mortality stratified by exercise capacity demonstrated significant findings ($P < 0.001$). Cox regression analysis showed that those with higher exercise capacity had significantly decreased risk of all-cause mortality, compared with those with no exercise capacity (hazard ratio: 0.823; 95% CI: 0.63–1.01; HR = 0.82, 95% CI: 0.63–1.01). High exercisers with more than 40 minutes per week had the lowest risk of death after adjusting for potential confounders. Multivariate Cox regression analysis showed that those with higher exercise capacity had a significantly increased risk of all-cause mortality, compared with those with no exercise capacity (hazard ratio: 0.775; 95% CI: 0.62–0.92; HR = 0.77, 95% CI: 0.62–0.92). A significant trend ($P < 0.001$) was also noted. Similarly, analysis was performed by gender, age, smoking status, and education level during the study period. The results also showed that those with higher exercise capacity had a significantly decreased risk of all-cause mortality.

Table 1, Table 2, Table 3, Table 4, Table 5, Table 6, Table 7, Table 8, Table 9, Table 10, Table 11, Table 12, Table 13, Table 14, Table 15, Table 16, Table 17, Table 18, Table 19, Table 20, Table 21, Table 22, Table 23, Table 24, Table 25, Table 26, Table 27, Table 28, Table 29, Table 30, Table 31, Table 32, Table 33, Table 34, Table 35, Table 36, Table 37, Table 38, Table 39, Table 40, Table 41, Table 42, Table 43, Table 44, Table 45, Table 46, Table 47, Table 48, Table 49, Table 50, Table 51, Table 52, Table 53, Table 54, Table 55, Table 56, Table 57, Table 58, Table 59, Table 60, Table 61, Table 62, Table 63, Table 64, Table 65, Table 66, Table 67, Table 68, Table 69, Table 70, Table 71, Table 72, Table 73, Table 74, Table 75, Table 76, Table 77, Table 78, Table 79, Table 80, Table 81, Table 82, Table 83, Table 84, Table 85, Table 86, Table 87, Table 88, Table 89, Table 90, Table 91, Table 92, Table 93, Table 94, Table 95, Table 96, Table 97, Table 98, Table 99, Table 100, Table 101, Table 102, Table 103, Table 104, Table 105, Table 106, Table 107, Table 108, Table 109, Table 110, Table 111, Table 112, Table 113, Table 114, Table 115, Table 116, Table 117, Table 118, Table 119, Table 120, Table 121, Table 122, Table 123, Table 124, Table 125, Table 126, Table 127, Table 128, Table 129, Table 130, Table 131, Table 132, Table 133, Table 134, Table 135, Table 136, Table 137, Table 138, Table 139, Table 140, Table 141, Table 142, Table 143, Table 144, Table 145, Table 146, Table 147, Table 148, Table 149, Table 150, Table 151, Table 152, Table 153, Table 154, Table 155, Table 156, Table 157, Table 158, Table 159, Table 160, Table 161, Table 162, Table 163, Table 164, Table 165, Table 166, Table 167, Table 168, Table 169, Table 170, Table 171, Table 172, Table 173, Table 174, Table 175, Table 176, Table 177, Table 178, Table 179, Table 180, Table 181, Table 182, Table 183, Table 184, Table 185, Table 186, Table 187, Table 188, Table 189, Table 190, Table 191, Table 192, Table 193, Table 194, Table 195, Table 196, Table 197, Table 198, Table 199, Table 200, Table 201, Table 202, Table 203, Table 204, Table 205, Table 206, Table 207, Table 208, Table 209, Table 210, Table 211, Table 212, Table 213, Table 214, Table 215, Table 216, Table 217, Table 218, Table 219, Table 220, Table 221, Table 222, Table 223, Table 224, Table 225, Table 226, Table 227, Table 228, Table 229, Table 230, Table 231, Table 232, Table 233, Table 234, Table 235, Table 236, Table 237, Table 238, Table 239, Table 240, Table 241, Table 242, Table 243, Table 244, Table 245, Table 246, Table 247, Table 248, Table 249, Table 250, Table 251, Table 252, Table 253, Table 254, Table 255, Table 256, Table 257, Table 258, Table 259, Table 260, Table 261, Table 262, Table 263, Table 264, Table 265, Table 266, Table 267, Table 268, Table 269, Table 270, Table 271, Table 272, Table 273, Table 274, Table 275, Table 276, Table 277, Table 278, Table 279, Table 280, Table 281, Table 282, Table 283, Table 284, Table 285, Table 286, Table 287, Table 288, Table 289, Table 290, Table 291, Table 292, Table 293, Table 294, Table 295, Table 296, Table 297, Table 298, Table 299, Table 300, Table 301, Table 302, Table 303, Table 304, Table 305, Table 306, Table 307, Table 308, Table 309, Table 310, Table 311, Table 312, Table 313, Table 314, Table 315, Table 316, Table 317, Table 318, Table 319, Table 320, Table 321, Table 322, Table 323, Table 324, Table 325, Table 326, Table 327, Table 328, Table 329, Table 330, Table 331, Table 332, Table 333, Table 334, Table 335, Table 336, Table 337, Table 338, Table 339, Table 340, Table 341, Table 342, Table 343, Table 344, Table 345, Table 346, Table 347, Table 348, Table 349, Table 350, Table 351, Table 352, Table 353, Table 354, Table 355, Table 356, Table 357, Table 358, Table 359, Table 360, Table 361, Table 362, Table 363, Table 364, Table 365, Table 366, Table 367, Table 368, Table 369, Table 370, Table 371, Table 372, Table 373, Table 374, Table 375, Table 376, Table 377, Table 378, Table 379, Table 380, Table 381, Table 382, Table 383, Table 384, Table 385, Table 386, Table 387, Table 388, Table 389, Table 390, Table 391, Table 392, Table 393, Table 394, Table 395, Table 396, Table 397, Table 398, Table 399, Table 400, Table 401, Table 402, Table 403, Table 404, Table 405, Table 406, Table 407, Table 408, Table 409, Table 410, Table 411, Table 412, Table 413, Table 414, Table 415, Table 416, Table 417, Table 418, Table 419, Table 420, Table 421, Table 422, Table 423, Table 424, Table 425, Table 426, Table 427, Table 428, Table 429, Table 430, Table 431, Table 432, Table 433, Table 434, Table 435, Table 436, Table 437, Table 438, Table 439, Table 440, Table 441, Table 442, Table 443, Table 444, Table 445, Table 446, Table 447, Table 448, Table 449, Table 450, Table 451, Table 452, Table 453, Table 454, Table 455, Table 456, Table 457, Table 458, Table 459, Table 460, Table 461, Table 462, Table 463, Table 464, Table 465, Table 466, Table 467, Table 468, Table 469, Table 470, Table 471, Table 472, Table 473, Table 474, Table 475, Table 476, Table 477, Table 478, Table 479, Table 480, Table 481, Table 482, Table 483, Table 484, Table 485, Table 486, Table 487, Table 488, Table 489, Table 490, Table 491, Table 492, Table 493, Table 494, Table 495, Table 496, Table 497, Table 498, Table 499, Table 500, Table 501, Table 502, Table 503, Table 504, Table 505, Table 506, Table 507, Table 508, Table 509, Table 510, Table 511, Table 512, Table 513, Table 514, Table 515, Table 516, Table 517, Table 518, Table 519, Table 520, Table 521, Table 522, Table 523, Table 524, Table 525, Table 526, Table 527, Table 528, Table 529, Table 530, Table 531, Table 532, Table 533, Table 534, Table 535, Table 536, Table 537, Table 538, Table 539, Table 540, Table 541, Table 542, Table 543, Table 544, Table 545, Table 546, Table 547, Table 548, Table 549, Table 550, Table 551, Table 552, Table 553, Table 554, Table 555, Table 556, Table 557, Table 558, Table 559, Table 5510, Table 5511, Table 5512, Table 5513, Table 5514, Table 5515, Table 5516, Table 5517, Table 5518, Table 5519, Table 5520, Table 5521, Table 5522, Table 5523, Table 5524, Table 5525, Table 5526, Table 5527, Table 5528, Table 5529, Table 5530, Table 5531, Table 5532, Table 5533, Table 5534, Table 5535, Table 5536, Table 5537, Table 5538, Table 5539, Table 55310, Table 55311, Table 55312, Table 55313, Table 55314, Table 55315, Table 55316, Table 55317, Table 55318, Table 55319, Table 55320, Table 55321, Table 55322, Table 55323, Table 55324, Table 55325, Table 55326, Table 55327, Table 55328, Table 55329, Table 55330, Table 55331, Table 55332, Table 55333, Table 55334, Table 55335, Table 55336, Table 55337, Table 55338, Table 55339, Table 55340, Table 55341, Table 55342, Table 55343, Table 55344, Table 55345, Table 55346, Table 55347, Table 55348, Table 55349, Table 55350, Table 55351, Table 55352, Table 55353, Table 55354, Table 55355, Table 55356, Table 55357, Table 55358, Table 55359, Table 55360, Table 55361, Table 55362, Table 55363, Table 55364, Table 55365, Table 55366, Table 55367, Table 55368, Table 55369, Table 55370, Table 55371, Table 55372, Table 55373, Table 55374, Table 55375, Table 55376, Table 55377, Table 55378, Table 55379, Table 55380, Table 55381, Table 55382, Table 55383, Table 55384, Table 55385, Table 55386, Table 55387, Table 55388, Table 55389, Table 55390, Table 55391, Table 55392, Table 55393, Table 55394, Table 55395, Table 55396, Table 55397, Table 55398, Table 55399, Table 553100, Table 553101, Table 553102, Table 553103, Table 553104, Table 553105, Table 553106, Table 553107, Table 553108, Table 553109, Table 553110, Table 553111, Table 553112, Table 553113, Table 553114, Table 553115, Table 553116, Table 553117, Table 553118, Table 553119, Table 553120, Table 553121, Table 553122, Table 553123, Table 553124, Table 553125, Table 553126, Table 553127, Table 553128, Table 553129, Table 553130, Table 553131, Table 553132, Table 553133, Table 553134, Table 553135, Table 553136, Table 553137, Table 553138, Table 553139, Table 553140, Table 553141, Table 553142, Table 553143, Table 553144, Table 553145, Table 553146, Table 553147, Table 553148, Table 553149, Table 553150, Table 553151, Table 553152, Table 553153, Table 553154, Table 553155, Table 553156, Table 553157, Table 553158, Table 553159, Table 553160, Table 553161, Table 553162, Table 553163, Table 553164, Table 553165, Table 553166, Table 553167, Table 553168, Table 553169, Table 553170, Table 553171, Table 553172, Table 553173, Table 553174, Table 553175, Table 553176, Table 553177, Table 553178, Table 553179, Table 553180, Table 553181, Table 553182, Table 553183, Table 553184, Table 553185, Table 553186, Table 553187, Table 553188, Table 553189, Table 553190, Table 553191, Table 553192, Table 553193, Table 553194, Table 553195, Table 553196, Table 553197, Table 553198, Table 553199, Table 5531000, Table 5531001, Table 5531002, Table 5531003, Table 5531004, Table 5531005, Table 5531006, Table 5531007, Table 5531008, Table 5531009, Table 55310010, Table 55310011, Table 55310012, Table 55310013, Table 55310014, Table 55310015, Table 55310016, Table 55310017, Table 55310018, Table 55310019, Table 55310020, Table 55310021, Table 55310022, Table 55310023, Table 55310024, Table 55310025, Table 55310026, Table 55310027, Table 55310028, Table 55310029, Table 55310030, Table 55310031, Table 55310032, Table 55310033, Table 55310034, Table 55310035, Table 55310036, Table 55310037, Table 55310038, Table 55310039, Table 55310040, Table 55310041, Table 55310042, Table 55310043, Table 55310044, Table 55310045, Table 55310046, Table 55310047, Table 55310048, Table 55310049, Table 55310050, Table 55310051, Table 55310052, Table 55310053, Table 55310054, Table 55310055, Table 55310056, Table 55310057, Table 55310058, Table 55310059, Table 55310060, Table 55310061, Table 55310062, Table 55310063, Table 55310064, Table 55310065, Table 55310066, Table 55310067, Table 55310068, Table 55310069, Table 55310070, Table 55310071, Table 55310072, Table 55310073, Table 55310074, Table 55310075, Table 55310076, Table 55310077, Table 55310078, Table 55310079, Table 55310080, Table 55310081, Table 55310082, Table 55310083, Table 55310084, Table 55310085, Table 55310086, Table 55310087, Table 55310088, Table 55310089, Table 55310090, Table 55310091, Table 55310092, Table 55310093, Table 55310094, Table 55310095, Table 55310096, Table 55310097, Table 55310098, Table 55310099, Table 553100100, Table 553100101, Table 553100102, Table 553100103, Table 553100104, Table 553100105, Table 553100106, Table 553100107, Table 553100108, Table 553100109, Table 553100110, Table 553100111, Table 553100112, Table 553100113, Table 553100114, Table 553100115, Table 553100116, Table 553100117, Table 553100118, Table 553100119, Table 553100120, Table 553100121, Table 553100122, Table 553100123, Table 553100124, Table 553100125, Table 553100126, Table 553100127, Table 553100128, Table 553100129, Table 553100130, Table 553100131, Table 553100132, Table 553100133, Table 553100134, Table 553100135, Table 553100136, Table 553100137, Table 553100138, Table 553100139, Table 553100140, Table 553100141, Table 553100142, Table 553100143, Table 553100144, Table 553100145, Table 553100146, Table 553100147, Table 553100148, Table 553100149, Table 553100150, Table 553100151, Table 553100152, Table 553100153, Table 553100154, Table 553100155, Table 553100156, Table 553100157, Table 553100158, Table 553100159, Table 553100160, Table 553100161, Table 553100162, Table 553100163, Table 553100164, Table 553100165, Table 553100166, Table 553100167, Table 553100168, Table 553100169, Table 553100170, Table 553100171, Table 553100172, Table 553100173, Table 553100174, Table 553100175, Table 553100176, Table 553100177, Table 553100178, Table 553100179, Table 553100180, Table 553100181, Table 553100182, Table 553100183, Table 553100184, Table 553100185, Table 553100186, Table 553100187, Table 553100188, Table 553100189, Table 553100190, Table 553100191, Table 553100192, Table 553100193, Table 553100194, Table 553100195, Table 553100196, Table 553100197, Table 553100198, Table 553100199, Table 553100200, Table 553100201, Table 553100202, Table 553100203, Table 553100204, Table 553100205, Table 553100206, Table 553100207, Table 553100208, Table 553100209, Table 553100210, Table 553100211, Table 553100212, Table 553100213, Table 553100214, Table 553100215, Table 553100216, Table 553100217, Table 553100218, Table 553100219, Table 553100220, Table 553100221, Table 553100222, Table 553100223, Table 553100224, Table 553100225, Table 553100226, Table 553100227, Table 553100228, Table 553100229, Table 553100230, Table 553100231, Table 553100232, Table 553100233, Table 553100234, Table 553100235, Table 553100236, Table 553100237, Table 553100238, Table 553100239, Table 553100240, Table 553100241, Table 553100242, Table 553100243, Table 553100244, Table 553100245, Table 553100246, Table 553100247, Table 553100248, Table 553100249, Table 553100250, Table 553100251, Table 553100252, Table 553100253, Table 553100254, Table 553100255, Table 553100256, Table 553100257, Table 553100258, Table 553100259, Table 553100260, Table 553100261, Table 553100262, Table 553100263, Table 553100264, Table 553100265, Table 553100266, Table 553100267, Table 553100268, Table 553100269, Table 553100270, Table 553100271, Table 553100272, Table 553100273, Table 553100274, Table 553100275, Table 553100276, Table 553100277, Table 553100278, Table 553100279, Table 553100280, Table 553100281, Table 553100282, Table 553100283, Table 553100284, Table 553100285, Table 553100286, Table 553100287, Table 553100288, Table 553100289, Table 553100290, Table 553100291, Table 553100292, Table 553100293, Table 553100294, Table 553100295, Table 553100296, Table 553100297, Table 553100298, Table 553100299, Table 553100300, Table 553100301, Table 553100302, Table 553100303, Table 553100304, Table 553100305, Table 553100306, Table 553100307, Table 553100308, Table 553100309, Table 553100310, Table 553100311, Table 553100312, Table 553100313, Table 553100314, Table 553100315, Table 553100316, Table 553100317, Table 553100318, Table 553100319, Table 553100320, Table 553100321, Table 553100322, Table 553100323, Table 553100324, Table 553100325, Table 553100326, Table 553100327, Table 553100328, Table 553100329, Table 553100330, Table 553100331, Table 553100332, Table 553100333, Table 553100334, Table 553100335, Table 553100336, Table 553100337, Table 553100338, Table 553100339, Table 553100340, Table 553100341, Table 553100342, Table 553100343, Table 553100344, Table 553100345, Table 553100346, Table 553100347, Table 553100348, Table 553100349, Table 553100350, Table 553100351, Table 553100352, Table 553100353, Table 553100354, Table 553100355, Table 553100356, Table 553100357, Table 553100358, Table 553100359, Table 553100360, Table 553100361, Table 553100362, Table 553100363, Table 553100364, Table 553100365, Table 553100366, Table 553100367, Table 553100368, Table 553100369, Table 553100370, Table 553100371, Table 553100372, Table 553100373, Table 553100374, Table 553100375, Table 553100376, Table 553100377, Table 553100378, Table 553100379, Table 553100380, Table 553100381, Table 553100382, Table 553100383, Table 553100384, Table 553100385, Table 553100386, Table 553100387, Table 553100388, Table 553100389, Table 553100390, Table 553100391, Table 553100392, Table 553100393, Table 553100394, Table 553100395, Table 553100396, Table 553100397, Table 553100398, Table 553100399, Table 553100400, Table 553100401, Table 553100402, Table 553100403, Table 553100404, Table 553100405, Table 553100406, Table 553100407, Table 553100408, Table 553100409, Table 553100410, Table 553100411, Table 553100412, Table 553100413, Table 553100414, Table 553100415, Table 553100416, Table 553100417, Table 553100418, Table 553100419, Table 553100420, Table 553100421, Table 553100422, Table 553100423, Table 553100424, Table 553100425, Table 553100426, Table 553100427, Table 553100428, Table 553100429, Table 55