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SOMEEC CONSENSUS STATEMENT SPINE-RELATED DISEASE BURDEN AND THE FUTURE OF ENDOSCOPIC SPINE CARE

DECLARACIÓN DE CONSENSO DE LA SOCIEDAD MEXICANA DE CIRUGÍA ENDOSCÓPICA DE LA COLUMNA

DECLARAÇÃO DE CONSENSO DA SOCIEDADE MEXICANA DE CIRURGIA ENDOSCÓPICA DA COLUNA

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INTRODUCTION

The Mexican Society of Endoscopic Surgery of the Spine – SOMEEC (Sociedad Mexicana de Endoscopia de Columna) was founded by two orthopaedic spine surgeons – Drs. Roberto Cantú, and Braulio Hernandez. In 2002, these two innovators recognized the need for a new organization in Mexico. Dr. Roberto Cantú attended three courses with Dr. Parviz Kambin in 1989, 1991, and 1992 at the graduate hospital in Philadelphia with Dr. Parviz Kambin and others with Dr. Anthony Yeung in Phoenix, Arizona, who had started his outpatient surgery center at the Desert Institute For Spine Care.[1-3] Before founding SOMEEC Dr. Cantu championed the first percutaneous spinal surgery course in Mexico City, which were followed by annual meetings since its inception. Other founding members, who were there at the first hour, were Drs. Raymundo Quintana and Pedro Antonio Bravo. Over the years, SOMEEC has steadily grown. The fresh ingress of a new generation of younger endoscopic spine surgeons received within the last few years is easily explained by the increasing national and international traction endoscopic spine surgery has received. Today, SOMEEC is one of the leading organizations in Latin America known for high-quality training standards and the most up-to-date technology applications. Its founding members have published several peer-reviewed articles in internationally renowned circulations and, thus, have elevated SOMEEC into one of the premier Latin American Spine Societies. [4] SOMEEC leaders have also strategically positioned the organization well within the public discussion of value-based healthcare by making a case for less costly and less burdensome surgical care. Today, SOMEEC has over 200 active members practicing throughout all of Mexico's 32 states including Aguascalientes, Baja California, Baja California Sur, Campeche, Coahuila, Colima, Chiapas, Chihuahua, Durango, Mexico City, Guanajuato, Guerrero, Hidalgo, Jalisco, Mexico, Michoacan, Morelos, Nayarit, Nuevo León, Oaxaca, Puebla, Queretaro, Quintana Roo, and San Luis.

THE MUSCULOSKELETAL DISEASE BURDEN

The SOMEEC leadership is keenly aware of the drastic demographic changes regarding Mexico's population trends. The age pyramid is expected to be reversed by 2050, with most of the Mexican population over 45 (Figure 1). The annualized healthcare spending is projected to increase from $USD500 to $USD619 per person, with most of the increase coming from government-run and prepaid private healthcare programs. In 2019, low back pain-related and other musculoskeletal problems accounted for 17% of Mexico's national disease burden when measured in disability-adjusted life years (DALYs). When analyzing the top 10 causes of death and disability in DALY rate per 100,000 across Latin America relative to the other countries of South and Central America and the islands of the Caribbean, the 2019 analysis shows that musculoskeletal conditions contributing to the overall disease burden ranked the highest in Mexico. (Figure 2)

CURRENT CLINICAL FOCUS

The SOMEEC program reflected the ongoing controversies in the emerging clinical endoscopic spine surgery standards when managing painful lumbar and cervical degenerative spine disease followed by trauma, deformity, infection, and tumor of the thoracolumbar spine (Figure 3). Discussions extended into more complex endoscopic treatment strategies beyond the scope of decompression, including spinal fusion and the application of advanced navigation and robotics technology (Figure 4). Additional segments were dedicated to the endoscopic management of adjacent segment disease (ASD) and cervical and thoracic spinal cord compression. Hands-on and live surgery sessions were used to discuss these concepts in real-time by going through the protocol steps of the unilateral transforaminal lumbar decompression procedure.

Study conducted by the SOMEEC 2022, Ciudad de Morelia, Michoacán, Mexico.
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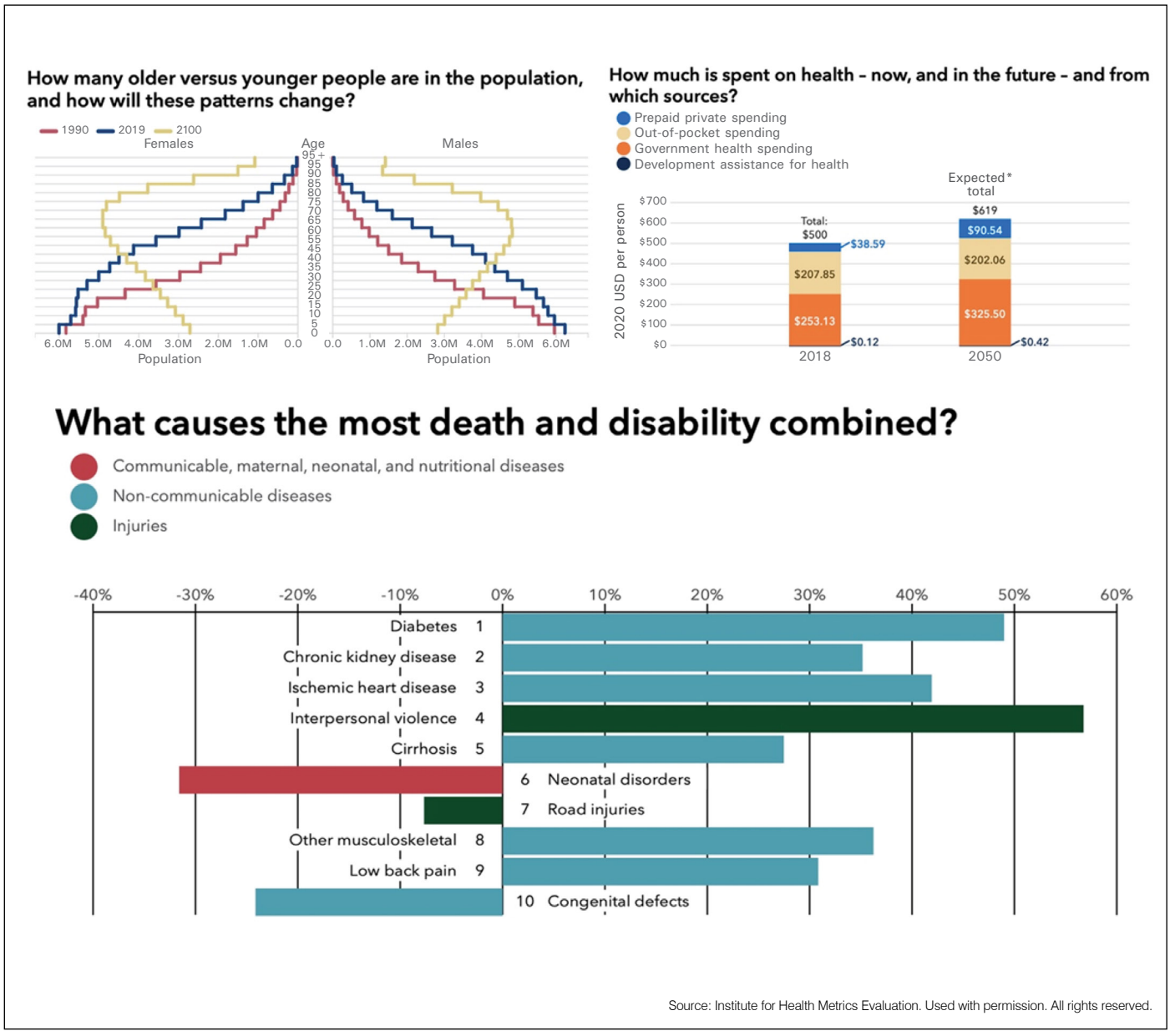

Figure 1. Top left panel: Mexico's population age structure for males and females in 1990, 2019 (reference scenario), and 2100 (reference scenario). Forecasted data based on Global Burden of Disease 2017 results. Top right panel: Mexico's health care spending future growth trajectory for 2050 based on past growth. Expenses calculated in $USD per person are projected to grow for prepaid private spending from $38.59 to $90.54, out-of-pocket spending is projected to decrease from $207.85 to $202.06, government health spending is projected to rise from $253.13 to $325.50, and minor changes in the development assistance for health from $0.12 to $0.42. Bottom panel: Top 10 causes of death and disability (DALYs) in 2019 and percent change 2009–2019, all ages combined, showing a combined disease burden of 17% due to low back pain and other musculoskeletal conditions.

CONSENSUS STATEMENTS

A survey amongst SOMEEC members – most of them are orthopaedic surgeons between the ages of 41 to 60 – revealed that most employ medical necessity criteria for endoscopic surgery based on validated pain generators rather than image-based criteria of neural compression, spinal alignment, or instability. Most SOMEEC members see uniportal spinal endoscopy as the technology platform for future clinical protocol advances. (Figure 4)

RECOGNITION AWARDS

Drs. Cecilio Quiñones, Oscar Suarez Requena, Herbert Alfaro, Roberto Cantu-Leal, Braulio Hernandez, Raymundo Quintana, Enrique Saldivar, Felipe Camarillo, Roberto Cantú Longoria, and Victor Miramontes were recognized for their contributions to SOMEEC as past, current presidents and president-elect. Drs. Luis Lombardi, Anthony Yeung, and Kai-Uwe Lewandrowski received special recognition awards as US-based corresponding foreign members for their collaborative publishing work with key Mexican opinion leaders.[4-15] Dr. Yeung was awarded a lifetime achievement award for his groundbreaking work that formed the basis for endoscopic spine surgery, having become mainstream in Latin America (Figure 5). Dr. Yeung was named honorary president of SOMEEC.

THE FUTURE OF ENDOSCOPIC SPINE CARE IN LATIN AMERICA

Many of the leaders mentioned above continued commitment and dedication (Figure 6) may form the basis for mainstreaming endoscopic spine surgery as the premier spinal decompression procedure in Latin America. The SOMEEC leadership understands

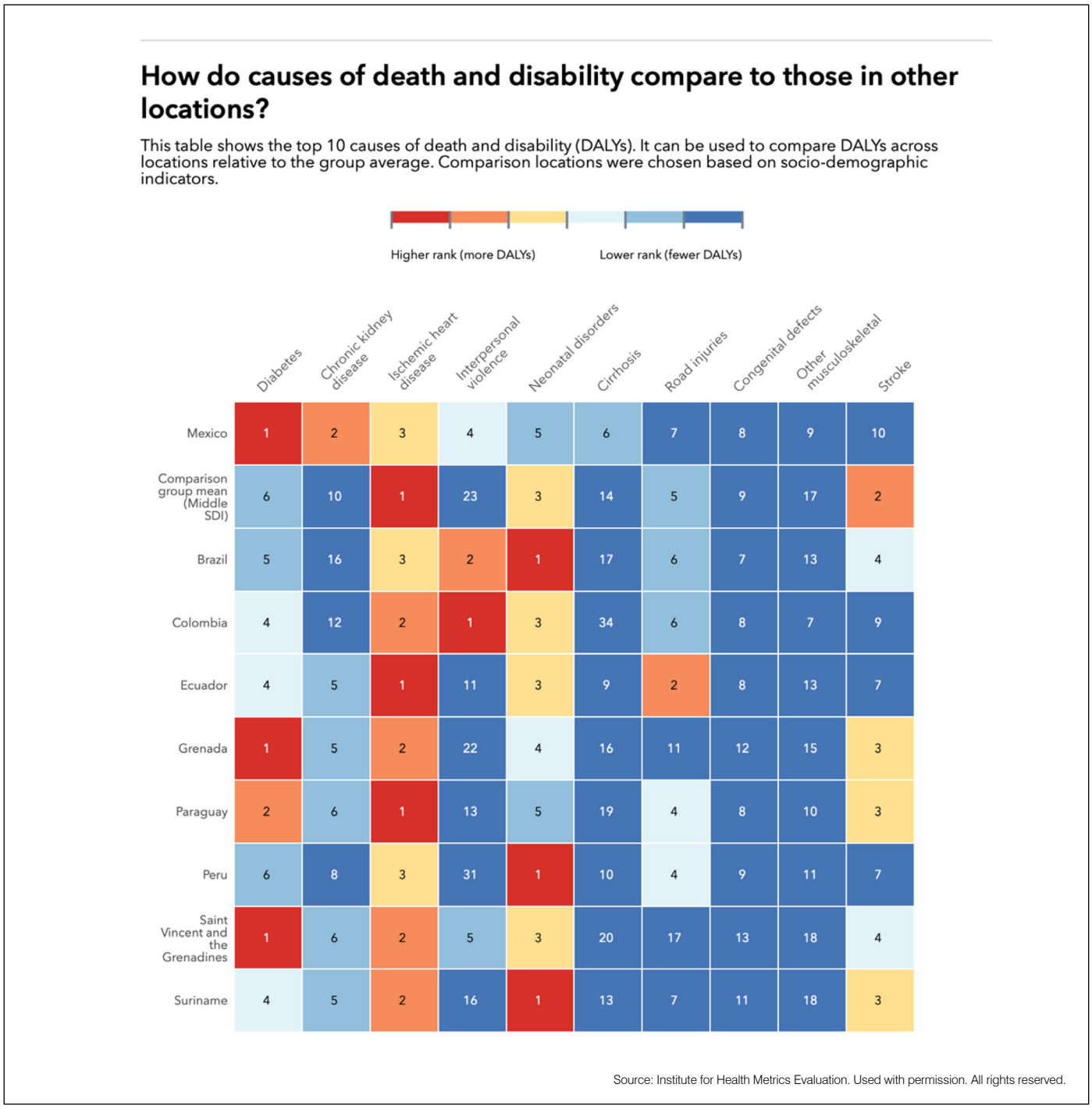

Figure 2. Shown are the top 10 causes of death and disability (DALYs), comparing DALYs across locations relative to the group average. Comparison locations were chosen based on socio-demographic indicators. The age-standardized DALY rate per 100,000, 2019 shows musculoskeletal conditions as the highest--ranking disorder contributing to the overall disease burden in Mexico compared to other Latin American countries.

that simplified spine care programs based on validated and directly visualized pain generators are the key to providing modern treatments to the increasing number of patients needing treatment for common painful conditions of the degenerative spine. The high disease burden from low back pain-related and musculoskeletal disability in the aging population will likely lead to a worsening public health care crisis with cost overruns and rationing unless alternative protocols can be deployed. SOMEEC sees its role as a leading organization in Latin America whose mission is to continue the necessary clinical and translational research. The sustainability of modern spine care in cash-strapped public health care systems will increasingly depend on more targeted treatments based on personalized rather than population-based medical necessity criteria for intervention and surgery.

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All authors declare no potential conflict of interest related to this article.

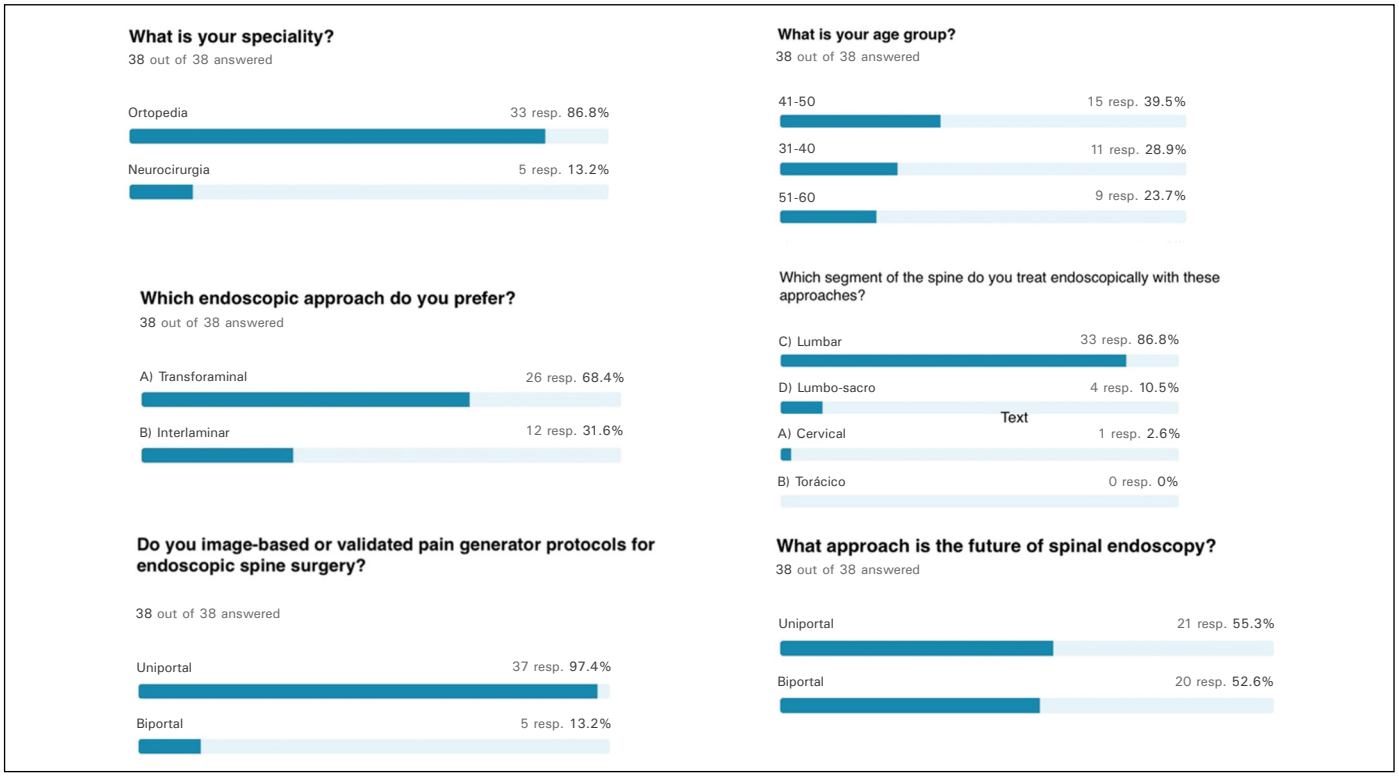

Figure 3. SOMEEC 2022 survey data indicated 86.8% of attendees were orthopaedic versus neurosurgeons between the ages of 41 to 60 years (63.2%), with 97.4% treating the lumbosacral spine endoscopically. Only 2.6% of surgeons indicated that they performed cervical endoscopic spinal surgery. The majority of surgeons preferred the transforaminal (68.4%) over the interlaminar (31.6%) approach and thought that it was the basis for future advances in its transforaminal uniportal (55.3%) versus translaminar biportal (52.6%) form. Most endoscopic spine surgeons employed pain-generator-based protocols (97.4%) versus imaged--based medical necessity criteria for endoscopic surgery.

Figure 4. Top left panel: Felipe Camarillo Juarez, Raymundo Quintana, Roberto Cantú Leal, Kai-Uwe Lewandrowski, Anthony Yeung Victor Miramontes, Oscar Suarez, Cecilio Quiñones, Felix Dolorit, y Enrique Saldivar. Middle left panel: Anthony Yeung, Kai-Uwe Lewandrowski, Roberto Cantú Longoria. Bottom left panel: SOMEEC 2022 group photo, Top right panel: SOMEEC flyer, Bottom right panel: Roberto Cantú Leal, Anthony Yeung, and Roberto Cantú Longoria.

Figure 5. Top left panel: Roberto Cantú Longoria, Roberto Cantu-Leal, Kai-Uwe Lewandrowski, Anthony Yeung, Cecillio Quiñones, Braulio Hernandez. Bottom left panel: Roberto Cantu-Leal, and Cecilio Quiñones awarding Anthony Yeung a lifetime achievement award. Top right: Recognition award presented to Anthony Yeung. Bottom Right: SOMEEC endoscopic spine surgery leaders recognized at the gala dinner – Drs. Cecillio Quiñones, Oscar Suarez Requena, Herbert Alfaro, Anthony Yeung, Roberto Cantu-Leal, Braulio Hernandez, Raymundo Quintana, Enrique Saldivar, Felipe Camarillo, Roberto Cantú Longoria, and Victor Miramontes.

Figure 6. Top left panel: Left to right starting back row - Drs. Victor Martinez (Past President SOMEEC), Clara Curiel (Tenured Professor, Chair of Dermatology, Director Skin Cancer Institute University of Arizona), Cecilio Quinonez (President SOMEEC), Kai-Uwe Lewandrowski (presenting the ISASS contingent, President--elect SICCMII), Paola Miramontes, Veronica Quintana, Raymundo Quintana (Past President SOMEEC), Eileen & Anthony Yeung, Roberto Cantu (Past President and SOMEEC Founder), Concepcion & Braulio Hernandez (Past President and SOMEEC Founder). Top Right and bottom left: Dr. Anthony Yeung with wife Eileen Kay Yeung in historic Morelia (Bottom right).

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