Urban-Rural Differences In Hip Fracture Mortality

A NOREPOS Study

Solbakken, Siri Marie ; Magnus, Jeanette H.; Meyer, Haakon E.; Sogaard, Anne Johanne; Tell, Grethe S.; Emaus, Nina; Holvik, Kristin; Forsmo, Siri; Gjesdal, Clara G.; Schei, Berit; Vestergaard, Peter; Omsland, Tone Kristin

Published in:
Journal of Bone and Mineral Research

DOI (link to publication from Publisher):
10.1002/jbmr.3621

Publication date:
2018

Document Version
Publisher's PDF, also known as Version of record

SUN-0778

Urban-Rural Differences In Hip Fracture Mortality. A NOREPOS Study Siri Marie Solbakken*[1], Jeanette H. Magnus[2], Haakon E. Meyer[1,3], Anne Johanne Søgaard[4], Grethe S. Tell[5,6], Nina Emaus[7], Kristin Holvik[4], Siri Forsmo[8], Clara G. Gjesdal[9], Berit Schei[10,11], Peter Vestergaard[12], Tone K. Omsland[1]. [1]Department of Community Medicine and Global Health, Institute of Health and Society, University of Oslo, Norway, [2]Section for Leadership, Faculty of Medicine, University of Oslo, Norway, [3]Division of Mental and Physical Health, Norwegian Institute of Public Health, Norway, [4]Division of Mental and Physical Health, Norwegian Institute of Public Health, Norway, [5]Department of Global Public Health and Primary Care, University of Bergen, Norway, [6]Division of Mental and Physical Health, Norwegian Institute of Public Health, Norway, [7]Department of Health and Care Sciences, UiT The Arctic University of Norway, Norway, [8]Department of Public Health and Nursing, NTNU, Norwegian University of Science and Technology, Norway, [9]Department of Clinical Science, University of Bergen and Department of Rheumatology, Haukeland University Hospital, Norway, [10]Department of Public Health and Nursing, Faculty of Medicine and Health Sciences, University of Science and Technology, Norway, [11]Department of Obstetrics and Gynaecology, St. Olav's hospital, Trondheim University Hospital, Norway, [12]Department of Endocrinology, Aalborg University Hospital and Department of Clinical Medicine, Aalborg University, Denmark

Purpose: To study urban-rural differences in mortality 30 days and 1 year post hip fracture, and to explore whether possible differences were associated with level of education. Methods: The study was based on the NOREPOS hip fracture database (NORHip) using hip fractures sustained during 2002-2013. The first registered hip fracture was included in the study. Dates on death and emigration were obtained from the National Registry. Information on education and municipality of residence was obtained from the 2001 Population and Housing Census, Statistics Norway. The degree of urbanization was based on the proportion of inhabitants living in densely populated areas (rural: <1/3, semi-rural: 1/3-2/3 and urban: >2/3). Mortality in hip fracture patients living in urban and semi-rural municipalities was compared to mortality in patients living in rural municipalities using a negative binomial model. Analyses on 30-day mortality and 1-year mortality were adjusted for age, and analyses of 1-year mortality were additionally adjusted for education. In the current abstract we have chosen to focus on differences between rural and urban areas only.Results: In 27 748 male and 65 527 female hip fracture patients aged 50-100 years there was no statistically significant urban-rural difference in 30-day hip fracture mortality (incidence rate ratio (IRR) 1.00 (95% CI 0.84, 1.18) in men and 1.03 (95% CI 0.88, 1.22) in women). Among women, 1-year mortality was higher in hip fracture patients living in urban compared to rural municipalities (IRR 1.16 (95% CI 1.01, 1.32)), with similar results in men (IRR 1.15, (95% CI 0.98, 1.35)). Differences in 1-year mortality were even more pronounced when adjusting for education (IRR 1.24, (95% CI 1.05, 1.45) in men and 1.21 (95% CI 1.06, 1.37) in women). Conclusions: One-year post hip fracture mortality was 16% higher in women in urban compared to rural municipalities, and similar estimates were found in men. There were no significant differences in 30-day mortality, suggesting that the immediate post-fracture quality of healthcare does not differ substantially between urban and rural areas. On the other hand, the differences in 1-year mortality could possibly be explained by inequalities in follow-up health care services or by differences in general health status between urban and rural hip fracture patients, but this requires further investigations.

Disclosures: ***Siri Marie Solbakken,*** *None*

SUN-0779

Factors associated with delayed wound healing longer than 8 weeks after tooth extraction in Japanese patients >60 years of age Akira Taguchi*[1], Mikio Kamimura[2], Shigeharu Uchiyama[3], Hiroyuki Kato[4]. [1]Department of Oral and Maxillofacial Radiology, School of Dentistry, Matsumoto Dental University, Japan, [2]Center for Osteoporosis and Spinal Disorders, Kamimura Orthopedic Clinic, Japan, [3]Department of Orthopedic Surgery, Okaya City Hospital, Japan, [4]Department of Orthopedic Surgery, Shinshu University School of Medicine, Japan

Little is known about whether osteoporosis, use of antiresorptive medication, or duration before tooth extraction is a main risk factor for osteonecrosis of the jaw. We evaluated whether use of bisphosphonate (BP) and/or denosumab (Dmab), self-reported kyphosis, or duration before tooth extraction were associated with an incidence in delayed wound healing beyond 8 weeks after tooth extraction during the past year in Japanese men and women 60 years of age and older. Among the 586 patients who responded to the structured questionnaire survey, 426 patients (151 men and 275 women) aged 60-96 years participated in this study. Subjects who had waited >2 months for tooth extraction had a significantly higher risk of delayed wound healing compared with those whose tooth was extracted within 1 month (Odds ratio [OR] 7.23; 95% confidence interval [CI] 2.19–23.85). The presence of self-reported kyphosis was significantly associated with an increased risk of delayed wound healing (OR 5.08; 95%CI 1.11–23.32). BP and/or Dmab use was not significantly associated with delayed wound healing (p=0.17). A long waiting time before tooth extraction and self-reported kyphosis but not use of antiresorptive medication may be risk factors for delayed wound healing beyond 8 weeks after extraction.

Disclosures: ***Akira Taguchi,*** *None*

SUN-0780

Prevalence of Morphometric Vertebral Fractures Does Not Differ in Patients With and Without Clinical Fractures in a Fracture Liaison Service Open Model Francisco Torres-Naranjo*[1], Alejandro Gaytán-González [1], Roberto González-Mendoza[3], Noé Albino González-Gallegos[4], Pilar De La Peña-Rodríguez[5], Hugo Gutiérrez-Hermosillo[6], Pedro García-Hernández[7], Claudia Flores-Moreno[7], Jorge Alberto Morales-Torres[8], Juan López-Taylor[9]. [1]Centro de Investigación Ósea, Universidad de Guadalajara., Mexico, [3]Instituto de Ciencias Aplicadas a la Actividad Física y del Deporte, Universidad de Guadalajara, Mexico, [4]Departamento de Bienestar y Desarrollo Sustentable, Centro Universitario del Norte, Universidad de Guadalajara, Colotlán, Mexico, [5]Servicios Médicos De la Peña, Mexico, [6]Universidad de Guanajuato Hospital Aranda de la Parra, Mexico, [7]Endocrinología/Centro de Osteoporosis, Hospital Universitario de Monterrey, Mexico, [8]Hospital Aranda de la Parra y CIMOVA, Mexico, [9]Instituto de Ciencias Aplicadas a la Actividad Física y del Deporte, Mexico

Vertebral fractures are associated with a high risk of new vertebral and non-vertebral fractures and with increased morbidity and mortality. Fracture Liaison Service (FLS), as proposed by the International Osteoporosis Foundation (IOF), focuses in clinical vertebral and non-vertebral fractures as trigger for the search of radiographic vertebral fractures. Since vertebral fractures are generally asymptomatic and occur early in the course of the disease, the lack of a systematic approach for the early detection of morphometric vertebral fractures (MVF) in patients without clinical fractures can lead to a large number of patients with vertebral fractures being undiagnosed.Purpose:To compare the prevalence of MVF in patients with and without clinical fractures at a center with a FLS open model.Methods:From August to December of 2017, 126 Mexican patients aged 50 to 80 years visited our osteoporosis center, 35 patients with clinical fracture where evaluated according to the IOF Capture the Fracture Program Best Practice Framework, and 91 patients with low bone mineral density (BMD) and without clinical fracture were evaluated at primary prevention unit (PPU). For detection of vertebral fractures, a vertebral morphometry was performed in all patients utilizing the High Definition Instant Vertebral Assessment (Hologic) on images obtained from DXA scans. MVF were defined according the Genant's semiquantitative method. For analysis, sample was stratified in decenniums. We compared the prevalence of MVF and BMD at three sites between groups using X2 and ANCOVA, respectively, both with a significant level of p<0.05.Results:The overall prevalence of MVF was of 46.8% (IC95% 38.0 – 55.6). For the FLS group we observed a prevalence of 51.4% (IC95% 34.0 – 68.9), and 45.1% (IC95% 34.7 – 55.5) for the PPU group. The prevalence per decennium was extended from 18.4% to 66.7% in both groups. No significant differences were observed in prevalence between groups (Table 1). There were significant differences in BMD between the patients with and without MVF. We observed significantly lower BMD at lumbar spine, total hip and femoral neck in patients with MVF.Conclusions:Prevalence of MVF were similar independently of presence or absence of clinical fracture at the moment of initial evaluation. Our findings suggest that evaluating for vertebral fracture is necessary in patients with low BMD with or without clinical fractures at the moment of initial evaluation.

Age		FLS		PPU		p
		n	%	n	%	
50-60	(n = 45)	7	28.6	38	18.4	0.28
60-70	(n = 53)	16	50.0	37	64.9	0.16
>70	(n = 28)	12	66.7	16	62.5	0.8
Total	(n = 126)	35	51.4	91	45.1	0.26

FLS= Fracture Liaison Service (patient with clinical fracture)
PPU= Primary Prevention Unit (patients without clinical fracture)

Disclosures: ***Francisco Torres-Naranjo,*** *None*

SUN-0781

Increase in Bone Mineral Density in Transwomen and Transmen During the First Ten Years of Gender-affirming Hormonal Treatment Chantal Wiepjes*, Christel De Blok, Mariska Vlot, Paul Lips, Renate De Jongh, Martin Den Heijer. VU University Medical Center, Netherlands

Purpose: Concerns about the effects of gender-affirming hormonal treatment (HT) on BMD exist, particularly regarding the decrease in estrogen concentrations in transmen. HT in transgender people affects BMD on short term, but long-term follow-up studies are lacking. Therefore this study aimed to investigate the change in BMD during the first 10 years of HT in transwomen and transmen, in order to determine whether it is necessary to assess BMD during HT.Methods: A retrospective cohort study was performed in adult transgender