

Patient-Controlled Sedation by Non-Anaesthesiologists During Flexible Bronchoscopy – A One-Year Experience Regarding Safety, Feasibility and Costs

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Background: Patient-controlled sedation (PCS) is an efficient and cost-saving method for sedation during flexible bronchoscopy (FB) in the presence of anaesthetic staff, but no data is available for PCS in a non-anaesthesiologist environment.

Methods: This descriptive study describes PCS with propofol in a non-anaesthesiologist setup during outpatient FB procedures, including transbronchial biopsy, transbronchial needle aspiration, cryotherapy/biopsy and/or multistation endobronchial ultrasound, and endoscopic ultrasound with bronchoscope.

Results: 287 procedures were completed. The median (range) duration for the procedures were 45 (10–105) minutes. The median (range) total propofol dose administered was 201 (55–570) mg, and 61 procedures (21%) required bolus doses of alfentanil. Desaturation occurred during 21% of the procedures and was resolved spontaneously (59%) or by using a jaw thrust (41%). No evidence was found that alfentanil contributed to desaturation ($p=0.081$). Inconsistent results were shown regarding the impact of alfentanil on the reduction of cough. The post-procedural assessment revealed high score of satisfaction and feasibility. 3 (1%) procedures were cancelled due to insufficient sedation. No prolonged recovery with need of overnight stay was reported. The direct costs for sedation were 180 USD/procedure.

Conclusion: PCS with propofol and the presence of trained non-anaesthesiologists during outpatient FB has shown to result in high procedure feasibility and satisfaction without compromising patient safety or increasing the risk for unhandled respiratory adverse events. The method reduces costs for sedation and offers the possibility to increase patient turn over due to no prolonged recovery.

Health risks related to polyurethan foam degradation in CPAP devices - the population-based DISCOVERY study

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Background A recent medical device recall notification from Philips Respironics reported on risk for degradation of polyurethane foam (PUF) in CPAP devices used for obstructive sleep apnoea (OSA) treatment.

Methods A national, longitudinal cohort study on OSA patients in Sweden using CPAP over an 8-year observation period with health data collected from Swedish national registries. The brands of CPAP devices included in the recent medical device recall notification were defined as PUF-CPAP (N=18,561) and other brands as non-PUF-CPAP (N=29,830). Main outcomes were anti-obstructive drug use, hospitalizations, cancer incidence, and mortality. Statistical methods included propensity score matching and multivariable regression models clustered by county and adjusted for anthropometric data and comorbidities.

Results During 139,056 person-years of follow-up, PUF-CPAP use was associated with more frequent use of short-acting beta2-agonists (SABA) and oral corticosteroids (OCS). During the first year after CPAP initiation, 3.3% vs. 2.7% ($p=0.001$) had ≥ 3 collections of SABA and 10.3% vs. 9.1% ($p<0.001$) were prescribed OCS, corresponding to an adjusted odds ratio 1.24 (95% Confidence Interval 1.10 to 1.39) and 1.10, (1.00 to 1.23) respectively. Mortality and overall cancer incidence were similar. Incident lung cancer risk was increased in the PUF-CPAP group (0.3% versus 0.1%, $p<0.001$), but this finding was not robust in sensitivity analysis.

Conclusions Use of PUF-CPAP was associated with mild deterioration of obstructive lung disease control, while overall cancer and mortality risks were unchanged. Signals of increased lung cancer incidence were inconclusive. Our findings may guide health care professionals and patients on risk-benefit assessment of PUF-CPAP use and replacement policies.

Obstructive sleep apnea is associated with cancer prevalence – the population-based DISCOVERY study

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Background: Nocturnal hypoxia in obstructive sleep apnea (OSA) is a potential risk factor for cancer disease but data are conflicting. We aimed to investigate the association between OSA measures and cancer prevalence in a large national OSA patient cohort.

Methods: Population-based, cross-sectional study on patients initiating CPAP therapy between July 2010 and March 2018 in Sweden (n=62,811), with crosslinked data from the National Cancer Registry and socio-economic data from Statistics Sweden. After propensity score matching for anthropometric data, comorbidities, socio-economic status, smoking prevalence, the association between all-cause and subtype cancer diagnosis 5 years prior to start of PAP treatment and sleep apnea severity, measured as apnea hypopnea index (AHI) or oxygen desaturation index (ODI), was analyzed using chi2-tests.

Results: 2,093 OSA patients with cancer (age 65.3±10.1 years, BMI 30 (IQR 27-34) kg/m², 29.8% females) had higher AHI (32 (IQR 20-50) versus 30 (19-45), event/hour, p=0.002) and ODI (28 (17-46) versus 26 (16-41) events/hour, p<0.001) when compared with matched OSA patients without cancer. Subgroup analysis confirmed that ODI was significantly higher in OSA patients with lung cancer (38 (21-61) versus 27 (16-43), p=0.012, N=57), prostate cancer (28 (17-46) versus 24 (16-39), p=0.005, N=617), and malignant melanoma (32 (17-46) versus 25 (14-41), p=0.015, N=170).

Conclusion: OSA mediated intermittent hypoxia was independently associated with cancer in this large, national cohort. Future longitudinal studies are warranted to study the potential influence of OSA treatment on cancer incidence.

BRONKOSKOPI MED KRYOBIOPSI VID ETT REGIONSJUKHUS

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Bakgrund: Kryobiopsi är en metod att ta biopsier genom att frysa ner vävnad och kan användas vid bronkoskopier. Metoden sägs ge biopsier som inte är klämda och dessutom större och djupare än vanliga tångbiopsier. Nackdelar är möjligen risk för blödningar och även behov av intubation och därmed följande ökad användning av lugnande medel. När vi började med denna teknik i Gävle beslutade vi att göra en kvalitetskontroll av metoden.

Metod: Från januari 2017 till januari 2022 har i Gävle utförts 284 bronkoskopier med kryoteknik. Vi har endast använt den vid synliga förändringar och urvalet har gjorts efter datortomografi. Ett enkelt frågeformulär har ifyllts av bronkoskopisten. Några data fattas dock ännu för upp till 90 patienter och nedanstående data är beräknat på f.n. tillgängliga data.

Resultat: Drygt hälften (53%) var kvinnor, medianåldern var 73 år, endast 14% var aldrig-rökare, PS var i median 1 men 13% var PS 3. Intubation gjordes i 67% av fallen och behövdes alltså inte i en tredjedel av fallen. I 69% var den misstänkta tumören klart synlig. Blödningar indelades i skalan 0-3 och medelsiffran blev endast 1,7. Efter biopsin sprayades kallt NaCl i drygt hälften och i knappt 10% Adrenalin. I åtta fall noterade en sjunkande syrgasmättnad (lägst 67%) och i två fall måste undersökningen avbrytas. En pneumothorax och en feberepisod noterades också. Definitiv diagnos fick man i 78%. Biopsierna har genomgående varit av god kvalitet och man kan hitta maligniteter även ganska djupt under slemhinnan.

Konklusion: Kryobiopsi är en effektiv metod att få goda biopsier och ger sällan större komplikationer.

RAPPORT FRÅN SLMF:S ARKIV

Gunnar Hillerdl

Gunnar Hillerdal, Docent, Överläkare och Arkivarie

Bakgrund: I ett litet tornrum högst upp i ett K-märkt hus i Akademiska Sjukhusets område i Uppsala som man når via en brant och trång trappa huserar SLMF:s arkiv. För några år sedan fick undertecknad förtroendet att som arkivarie ta hand om detta. Jag tror att få medlemmar är medvetna om detta arkiv och därför kan det vara värt att påminna om det och också diskutera dess framtida öde. Ett par gånger har det framförts propåer från sjukhuset att lokalerna ska utrymmas men hittills har detta undvikits, kanske framförallt pga att det är svårt att hitta någon annan användning för rummen.

Metod: Jag har inventerat ytligt, men tyvärr kunde jag som 70-plussare inte vara där under pandemin så det har blivit sporadiskt.

Resultat: Där finns SLMF:s protokoll och brevsamlingar mm. fram till 2002 och en hel del från tidigare föreningar; inbundna böcker av äldre årgångar av CHEST och andra tidskrifter; en hel hög avhandlingar inom lungområdet men få från senare år; och ett antal pärmar med material från sanatorier och lungkliniker; ett antal "biografier" av lungläkare; spridda foton från en del möten delvis omärkta; och mycket annat (förutom flera kilo damm och skräp).

Slutsats: Tidigare arkivarier har gjort en utmärkt insats men mest koncentrerat sig på insamling och mindre på systematisering. Vad ska sparas i dessa tider när mycket finns på Internet (eftersom vi i princip kan bli vräkta helt plötsligt)? Och om arkivet skall leva vidare bör intressant material fortsätta att samlas in.

Feasibility of EBUS-TBNA for histopathological and molecular diagnostics of NSCLC - a retrospective single-center experience

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Objectives: Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) is a minimally invasive bronchoscopic procedure, well established as a diagnostic modality of first choice for diagnosis and staging of non-small cell lung cancer (NSCLC). The therapeutic decisions for advanced NSCLC require comprehensive profiling of actionable mutations, which is currently considered to be an essential part of the diagnostic process.

The purpose of this study was to evaluate the utility of EBUS-TBNA cytology specimen for histological subtyping, molecular profiling of NSCLC by massive parallel sequencing (MPS), as well as for PD-L1 analysis.

Materials and methods: A retrospective review of 806 EBUS bronchoscopies was performed, resulting in a cohort of 132 consecutive patients with EBUS-TBNA specimens showing NSCLC cells in lymph nodes. Data on patient demographics, radiology features of the suspected tumor and mediastinal engagement, lymph nodes sampled, the histopathological subtype of NSCLC, and performed molecular analysis were collected.

Results: The EBUS-TBNA specimen proved sufficient for subtyping NSCLC in 83% and analysis of treatment predictive biomarkers in 77% (MPS in 53%). The adequacy of the EBUS-TBNA specimen was 69% for EGFR gene mutation analysis, 49% for analysis of ALK rearrangement, 36% for ROS1 rearrangement, and 33% for analysis of PD-L1.

Conclusion: The findings of our study confirm that EBUS-TBNA cytology aspirate is appropriate for diagnosis and subtyping of NSCLC and largely also for treatment predictive molecular testing, although more data is needed on the utility of EBUS cytology specimen for MPS and PD-L1 analysis.

BMI increase – A determinant of FEV1 decline for overweight and obese adults with asthma

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The authors have chosen not to publish the abstract

Andningskontroll som behandling vid Hyperventilationsyndrom (HVS) efter covid 19.

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Bakgrund

Ett vanligt år innan Covid 19 pandemin såg vi patienter med HVS på vår mottagning ofta i ett postinfektiöst tillstånd. Under flera år har vi utformat ett koncept med utredning med Endtidal koldioxidmätning (EtCo2) med Kapnograf följt av patientutbildning och övning i andningskontroll. Denna förkunskap och erfarenhet var oss till stor hjälp när pandemin gav oss nya utmaningar. Som i vårt fall bl.a. innebar att identifiera ett större inflöde av patienter med dyspné och där vi kunnat diagnostisera HVS och med hjälp av andningstekniker och andningskontroll minskat patienternas symtom. Vi såg redan under senare delen av 2020 ett ökat inflöde av denna patientgrupp och insåg ett värde i att dokumentera och dela med oss av våra erfarenheter.

Material och Metod

Inflöde av remisser för bedömning av dyspné, ansträngningsdyspné från olika klinker inom RÖ -C och på senare tid mest från Covid -19 Uppföljningsmottagning Linköping. Vi har under 2020 och 2021 träffat över 40 patienter med misstanke om HVS, 25 av dessa har kunnat verifieras med EtCo2mätning ofta tillsammans med högt skattat Nijmegen-formulär. Insatser har getts med patientutbildning och andningskontrollerande övningar.

Resultat

Patienter med HVS har med hjälp av att medvetandegöra dysfunktionellt andningsmönster och träning i att kontrollera sitt andningsmönster kunnat minska sin symtomskattning på Nijmegen och normalisera sitt EtCo2 till ofta normala nivåer. Tack vare detta har de kunnat återfå en högre funktionsnivå med möjlighet till återgång i arbete och ökad aktivitetsnivå under hela dagen.

Slutsats

Vi ser i kliniken att HVS förekommer som rest efter Covid 19 och andningskontrollerande övningar kan minska symtombördan och på sikt normalisera andningsmönster och EtCo2.

Six-minutes walking test and 30 second chair-stand-test as predictors of mortality – a cohort study

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Background

Physical inactivity is strongly associated with worse prognosis in Chronic Obstructive Pulmonary Disease (COPD), and assessment of physical capacity and function is of great importance. Six minutes walking test (6MWT) is an established test known to predict mortality in COPD, and 30 seconds chair stand test (30sCST) is a potential alternative test. The aim of the study was to investigate and compare the associations of 6MWT and 30sCSTs with mortality.

Methods

Data on patient demographics, established mortality predictors and results from 6MWT and 30sCST were collected during 2018-2020 from 97 consecutively included patients with COPD. In August 2021, mortality data were retrieved from patient records. Correlation analysis of 6MWT and 30sCST was performed. The predictive abilities of 6MWT and 30sCST, respectively, were analyzed using Kaplan Meyer-curves and Cox regression with adjustment for sex, age, body mass index below 22 and comorbid cardiovascular disease.

Results

A positive correlation between 6MWT and 30sCST was shown ($r = 0,605$, $p < 0,0001$). Independent associations with mortality were found for 6MWT 250–349 (HR (95% CI) 3.19 (1.12 to 9.10), $p=0,030$) and 6MWT <250 (4.27 (1.69–10.8), $p=0.002$) compared with 6MWT \geq 350, and for 30sCST <4 (3.31 (1.03 to 10.6), $p=0.045$) compared with 30sCST \geq 11. When both 6MWT and 30sCST were included in the multivariable model, 6MWT250–349 (3.09 (1.02 to 9.37, $p=0.046$) and 6MWT <250 (3.57 (1.26 to 10.1), $p=0.016$) compared with 6MWT \geq 350 predicted mortality.

Conclusion 30sCST and 6MWT correlates significantly and are both independently associated with mortality in patients with COPD. Although 6MWT is the best predictor of mortality, 30sCST may be used as an alternative to identify patients at risk.

A novel telemedicine-based individualized pulmonary rehabilitation program in COPD: patient experiences.

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Background: Improving exercise capacity in patients with Chronic Obstructive Pulmonary Disease (COPD) is a primary goal in treatment, yielding many meaningful health outcomes. In an attempt to address disadvantages of institute-based pulmonary rehabilitation programs, a guideline-based tele-monitored exercise program was co-developed at the COPD Center, Sahlgrenska University Hospital. In this study, we assess patient experiences.

Methods: Patients with a verified COPD diagnosis of moderate to high severity completed a 12 week home based, distance monitored pulmonary rehabilitation program using an innovative device engaging digital technologies such as body- and movement recognition in augmented reality environments and video-based remote consultation.

In conjunction with follow up visits at the Sahlgrenska University Hospital, all participants were asked to fill out a questionnaire detailing their experience with different aspects of the treatment method. The questionnaire consisted of 19 statements which patients were asked to rate from 0 (strongly disagree) to 5 (strongly agree).

Results: 11 patients (mean age 72±10, 7 female, 4 male., mean FEV1: 45% pred.) completed the 12 weeks study period. Mean score of the evaluating questionnaire were 95 out of a total score 105). A colour coded excerpt from the evaluative questionnaire is available in figure 1.

Conclusion: Participants generally evaluated the system as easy to use and patient friendly, and no safety issues were reported. Patients reported a subjective improvement in exercise capacity and increased levels of physical activity. All participants wanted to continue with the system and would highly recommend it to other patients.