**Supplemental Material**

## Supplemental Table 1. Characteristics of Study Population with and without radiologic incidental findings.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Patients without radiological incidental findings (n=179) | Patients with radiological incidental findings  (n=197) | p-value |
| Age, years | 48.8 ± 9.6 | 52.0 ± 8.7 | <0.001 |
| Female | 68 (38) | 83 (42) | 0.41 |
| Race  White  Black  Other | 108 (60)  61 (34)  10 (6) | 126 (64)  62 (31)  9 (5) | 0.77 |
| Unemployed | 106 (59) | 142 (72) | 0.009 |
| Insurance  Medicare  Medicaid  Private Insurance  Self-Pay | 37 (21)  35 (19)  87 (49)  20 (11) | 42 (21)  38 (19)  100 (51)  17 (9) | 0.87 |
| Education Level  Not completed high school  Completed high school  Completed college | 27 (15)  106 (59)  46 (26) | 49 (25)  116 (59)  32 (16) | 0.014 |
| Body mass index, kg/m2 | 32.1 ± 8.3 | 30.9 ± 7.8 | 0.16 |
| Hemoglobin level, gm/dl | 13.4 ± 1.8 | 12.0 ± 1.9 | 0.029 |
| Estimated GFR on admission, ml/min/1.73sqm. | 83.1 ± 34.5 | 81.0 ± 36.1 | 0.566 |
| ALT on admission, Units/liter | 44.3 ± 51 | 37.5 ± 25.8 | 0.1 |
| Tobacco use  Never smoker  Past smoker  Active Smoker | 67 (38)  31 (17)  81 (45) | 66 ( 34)  38 (19)  93 (47) | 0.71 |
| Hypertension | 122 (69) | 140 (71) | 0.54 |
| Diabetes mellitus | 68 (38) | 68 (35) | 0.48 |
| Chronic kidney disease | 26 (15) | 40 (20) | 0.14 |
| Prior myocardial infarction | 45 (25) | 37 (19) | 0.14 |
| COPD | 17 (10) | 38 (19) | 0.007 |
| Congestive heart failure | 28 (16) | 22 (12) | 0.2 |
| Cerebrovascular accident | 25 (14) | 21 (11) | 0.33 |
| Prior diagnosis of malignancy | 4 (2) | 13 (7) | 0.04 |
| Drug Use | 40 (22) | 36 (18) | 0.33 |
| PCP present on admission | 149 (84) | 168 (86) | 0.59 |
| Cardiac catheterization during current admission | 50 (28) | 35 (18) | 0.02 |
| Stress test during current admission | 83 (46) | 80 (41) | 0.26 |
| Echocardiogram during current admission | 46 (26) | 43 (22) | 0.41 |
| Discharging Provider  House staff  Midlevel (NP/PA)  Hospitalist | 65 (36)  7 (4)  107 (60) | 47 (24)  2 (1)  148 (75) | 0.003 |
| Length of stay, (in days)\* | 2 [1] | 2 [2] | 0.08 |
| Discharge location  Home  Other | 165 (92)  14 (8) | 180 (91)  17 (9) | 0.41 |
| Patients with multiple admissions during study period | 12 (7) | 33 (17) | 0.02 |

Data displayed as mean ± SD (standard deviation) for continuous variables, and n (%) for categorical variables.

\*Data is median [IQR]

Abbreviations: IF=incidental findings; Kg/m2=kilograms per meter squared; gm/dl=gram per deciliter; ml=milliliter; min=minute; sqm=square meter; GFR=glomerular filtration rate; ALT=alanine transaminase; COPD= chronic obstructive pulmonary disease; Race= Others: Asians, Hispanic; PCP=primary care provider; NP=nurse practitioner; PA=physician assistant; Discharge location = others: nursing home, rehabilitation facility or shelter.

**Supplemental Table 2. Radiologic Testing Done in the Study Group**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IMAGING | No IF group total n=179  N (% of patients in the group getting this test) | IF group total n=197  N (%of patients in the group getting this test) | Total | Study with new IF (% of tests with IF) |
| **XRAYS::** |  |  |  |  |
| Abdomen | 0 | 6 (3.04) | 6 | 3 (50) |
| Chest | 168 (93.85) | 185 (93.90) | 353 | 112 (31.72) |
| Extremity- Ankle | 0 | 1 (0.5) | 1 | 0 |
| Extremity-Foot | 1 (0.55) | 3 (1.5) | 4 | 1 (25) |
| Extremity-Hip | 1 (0.55) | 2 (1) | 3 | 1 (33.33) |
| Extremity-Knee | 2 (1.11) | 4 (2) | 6 | 1 (16.66) |
| Extremity-Shoulder | 2 (1.11) | 1 (0.5) | 3 | 0 |
| Extremity-Wrist/hand | 0 | 2 (1) | 2 | 0 |
| Ribs | 0 | 1 (0.5) | 1 | 0 |
| Skull | 0 | 1 (0.5) | 1 | 0 |
| Spine-Cervical | 2 (1.11) | 1 (0.5) | 3 | 0 |
| Spine-Thoracic | 1 (0.55) | 1 (0.5) | 2 | 0 |
| Spine-Lumbosacral | 1 (0.55) | 0 | 1 | 0 |
|  |  |  |  |  |
| **CT SCAN::** |  |  |  |  |
| Abdomen Pelvis | 2 (1.11) | 39 (19.79) | 41 | 30 (73.17) |
| Cardiac | 6 (3.35) | 25 (12.69) | 31 | 21 (67.74) |
| Chest | 16 (8.93) | 85 (43.14) | 101 | 75 (74.25) |
| Extremity | 1 (0.55) | 0 | 1 | 0 |
| Facial | 0 | 2 (1) | 2 | 2 (100) |
| Head | 4 (2.23) | 22 (11.16) | 26 | 10 (29.28) |
| Neck | 1 (0.55) | 5 (2.5) | 6 | 3 (50) |
| Spine-Cervical | 0 | 1 (0.5) | 1 | 0 |
| Spine-Thoracic | 0 | 2 (1) | 2 | 0 |
| Spine-Lumbosacral | 0 | 1 (0.5) | 1 | 0 |
| **MRI/MRA: :** |  |  |  |  |
| Abdomen | 0 | 1 (0.5) | 1 | 0 |
| Brain | 1 (0.55) | 5 (2.5) | 6 | 3 (50) |
| Brachial plexus | 0 | 1 (0.5) | 1 | 1 (100) |
| Cardiac | 1 (0.55) | 0 | 1 | 0 |
| Chest MRA | 1 (0.55) | 0 | 1 | 0 |
| Knee | 1 (0.55) | 0 | 1 | 0 |
| Spine-Cervical/Neck | 2 (1.11) | 9 (4.56) | 11 | 1 (9.09) |
| Spine-Thoracic | 0 | 3 (1.5) | 3 | 0 |
| Spine- Lumbar | 1 (0.55) | 2 (1) | 3 | 2 (66.66) |
|  |  |  |  |  |
| **ULTRASOUND(USG)::** |  |  |  |  |
| Abdominal | 4 (2.23) | 7 (3.55) | 11 | 1 (9.09) |
| Breast | 0 | 1 (0.5) | 1 | 0 |
| Renal | 1 (0.55) | 2 (0.10) | 3 | 0 |
| Scrotal | 0 | 1 (0.5) | 1 | 1 (100) |
| Thyroid/Neck | 0 | 3 (1.5) | 3 | 0 |
|  |  |  |  |  |
| **OTHERS** |  |  |  |  |
| HIDA Scan | 0 | 1 (0.5) | 1 | 0 |
| Renal scan | 0 | 1 (0.5) | 1 | 0 |
| VQ scan | 2 (1.11) | 7 (3.55) | 9 | 0 |
| Esophageogram | 0 | 1 (0.5) | 1 | 0 |
| Mammogram | 0 | 1 (0.5) | 1 | 0 |
| Total | 222 | 436 | 658 | 268 (40.72) |

IF= incidental findings; CT =computed tomography; MRI= magnetic resonance imaging; MRA=magnetic resonance angiogram; USG= Ultra sonogram; HIDA scan= hepatobiliary iminodiacetic acid scan; VQ scan= Ventilation Perfusion scan;

**Supplemental Table 3. Radiologic Iincidental Findings by Organ System and Clinical Significance**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Incidental finding OS | Major | Moderate | Minor | Total |
| CNS | 0 | 0 | 4 | 4 |
| Endocrine | 0 | 16 | 4 | 20 |
| Gastrointestinal | 3 | 6 | 13 | 22 |
| Gynecological | 0 | 1 | 3 | 4 |
| Head -Neck | 0 | 1 | 10 | 11 |
| Hepatobiliary | 1 | 2 | 13 | 16 |
| Musculoskeletal | 1 | 5 | 70 | 76 |
| Pulmonary | 0 | 101 | 50 | 151 |
| Renal/Urinary tract | 1 | 6 | 11 | 18 |
| Reticuloendothelial | 16 | 2 | 2 | 20 |
| Skin/Integument | 0 | 0 | 2 | 2 |
| Vascular | 2 | 14 | 1 | 17 |
| Malignant | 3 | 0 | 0 | 3 |
| TOTAL | 27 | 154 | 183 | 364 |

OS= organ system

**Supplemental Table 4. Most Common (Top 5) Radiological incidental Findings by Clinical Significance**

|  |  |  |  |
| --- | --- | --- | --- |
| Ranking of Findings | Major | Moderate | Minor |
| 1 | Lymphadenopathy >1cm | Pulmonary Nodules | Lung base atelectasis/scarring |
| 2 | Malignant/premalignant tumors | Pulmonary Emphysematous Bullae | Degenerative Spine changes |
| 3 | Bowel Wall thickening | Pulmonary Parenchymal Opacity | Spondylosis |
| 4 | Vascular Thrombus | Pleural Fluid | Osteoarthritis |
| 5 | Aneurysm | Thyroid Incidentalomas | Mucus Retention Cysts/Sinusitis |

cm=centimeter;

**Supplemental Table 5. Negative Binomial Regression Models for Association Between Radiological Incidental Findings and Length of Stay**

|  |  |  |
| --- | --- | --- |
| **Negative Binomial Regression Model** | **Incident Rate Ratio** | **Confidence Interval** |
| **Unadjusted** | 1.24 | 1.06‒1.45 |
| **Adjusted\*** | 1.26 | 1.07‒1.49 |
| **Sensitivity Analysis\*\*** | 1.21 | 1.03‒1.42 |

\*Adjusted for age, history of drug abuse, history of CHF, history of CVA/TIA, BMI, multiple admissions during study period, cardiac catheterization/cardiac stress test during admission, creatinine, education level and hemoglobin.

LOS=length of stay

\*\* Adjusted for the above and dropping patients with length of stay >10days.

## Supplemental Table 6. Characteristics of Patients With Radiologic Incidental Findings of Major Clinical Significance

|  |  |
| --- | --- |
| Patient Characteristics | Total Study Population  (n=26) |
| Age, years | 51.1 ± 7.7 |
| Female | 14 (54) |
| Race  White  Black  Other | 15 (58)  11 (42)  0 (0) |
| Unemployed | 16 (62) |
| Insurance  Medicare  Medicaid  Private Insurance  Self-Pay | 3 (11)  9 (35)  11 (43)  3 (11) |
| Education Level  Not completed high school  Completed high school  Completed college | 5 (19)  14 (54)  7 (27) |
| Body mass index, kg/m2 | 29.5 ± 8.4 |
| Hemoglobin level, gm/dl | 12.6 ± 2.2 |
| Estimated GFR on admission, ml/min/1.73sqm. | 85.4 ± 34.2 |
| ALT on admission, Units/liter | 35.8 ± 30.1 |
| Tobacco use  Never smoker  Past smoker  Active Smoker | 6 (23)  7 (27)  13 (50) |
| Hypertension | 17 (65) |
| Diabetes mellitus | 6 (23) |
| Chronic kidney disease | 4 (15) |
| Prior myocardial infarction | 7 (27) |
| COPD | 5 (19) |
| Congestive heart failure | 1 (4) |
| Cerebrovascular accident | 3 (12) |
| Prior diagnosis of malignancy | 2 (8) |
| Drug use | 5 (19) |
| PCP present on admission | 20 (77) |
| Cardiac catheterization during current admission | 1 (4) |
| Stress test during current admission | 9 (35) |
| Echocardiogram during current admission | 4 (15) |
| Discharging Provider  House staff  Midlevel (NP/PA)  Hospitalist | 6 (23)  0 (0)  20 (77) |
| Length of stay, (in days)\* | 2 [2] |
| Discharge location  Home  Other | 25 (96)  1 (4) |
| Patients with multiple admissions during study period | 0 (0) |

Data displayed as mean ± SD (standard deviation) for continuous variables, and n (%) for categorical variables.

\*Data is median [IQR]

Abbreviations: IF=incidental findings; Kg/m2=kilograms per meter squared; gm/dl=gram per deciliter; ml=milliliter; min=minute; sqm=square meter; GFR=glomerular filtration rate; ALT=alanine transaminase; COPD= chronic obstructive pulmonary disease; Race= Others: Asians, Hispanic; PCP=primary care provider; NP=nurse practitioner; PA=physician assistant; Discharge location = others: nursing home, rehabilitation facility or shelter.