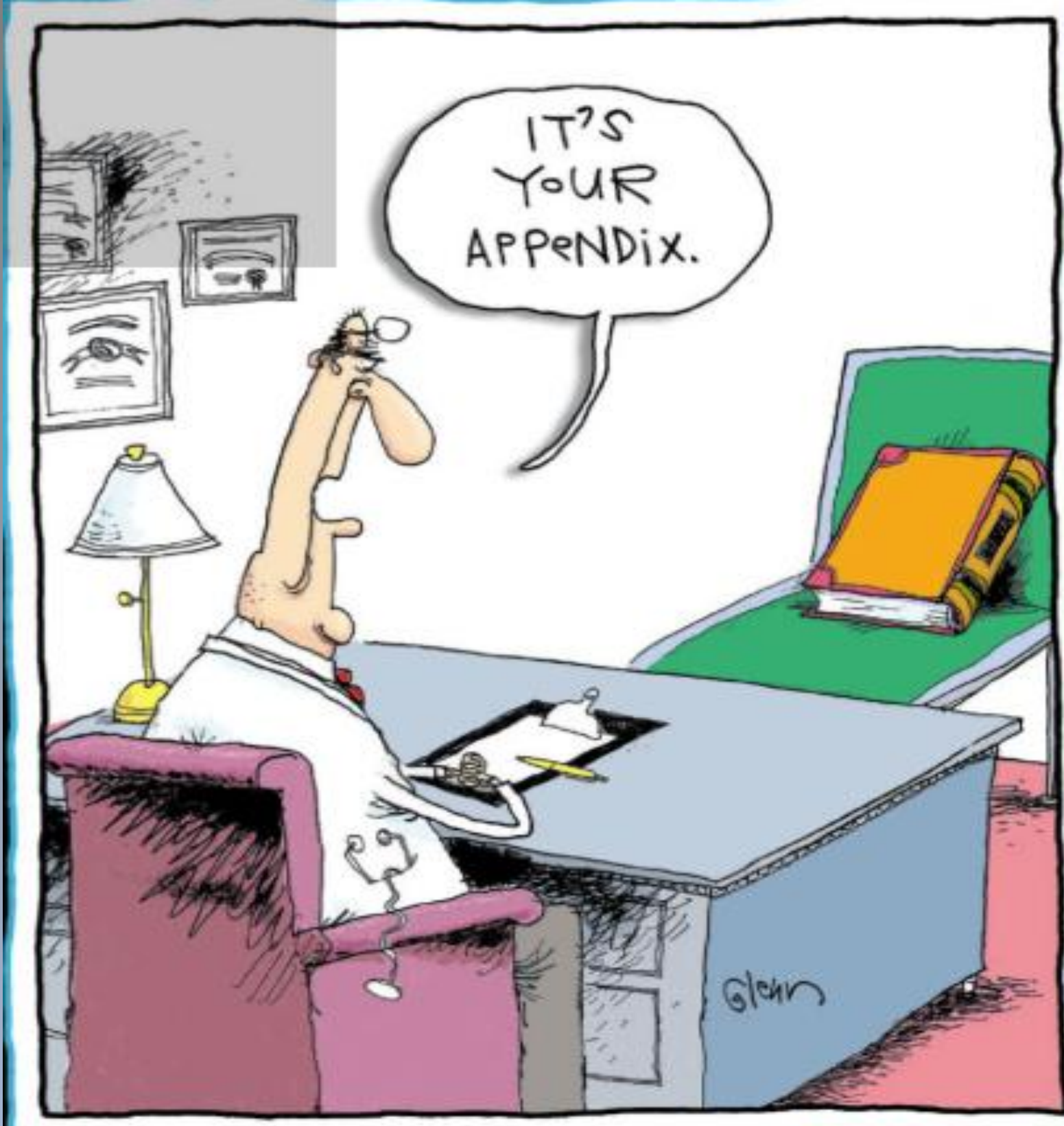




# Laparoscopic appendectomy - a comparison between older and younger patients.

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**Background:**

- Acute appendicitis (AA) in patients aged 50 years and older presents a diagnostic challenge, often associated with elevated morbidity and mortality.
- We hypothesized that laparoscopic appendectomy (LA) facilitates timely diagnosis and offers significant clinical advantages in this vulnerable population.

**Methods:**

- We conducted a retrospective comparative review of patients who underwent laparoscopic appendectomy for suspected AA in our surgical ward (Surgery A, SUMC).
- Clinical data and outcomes of older patients (≥50 years) were compared against a younger cohort to evaluate disparities in diagnostic accuracy and postoperative recovery.
- Data were collected from the patient’s medical files, as well as op reports and clinic visits.
- Patients’ demographics, postoperative complications, and length of stay, were compared.

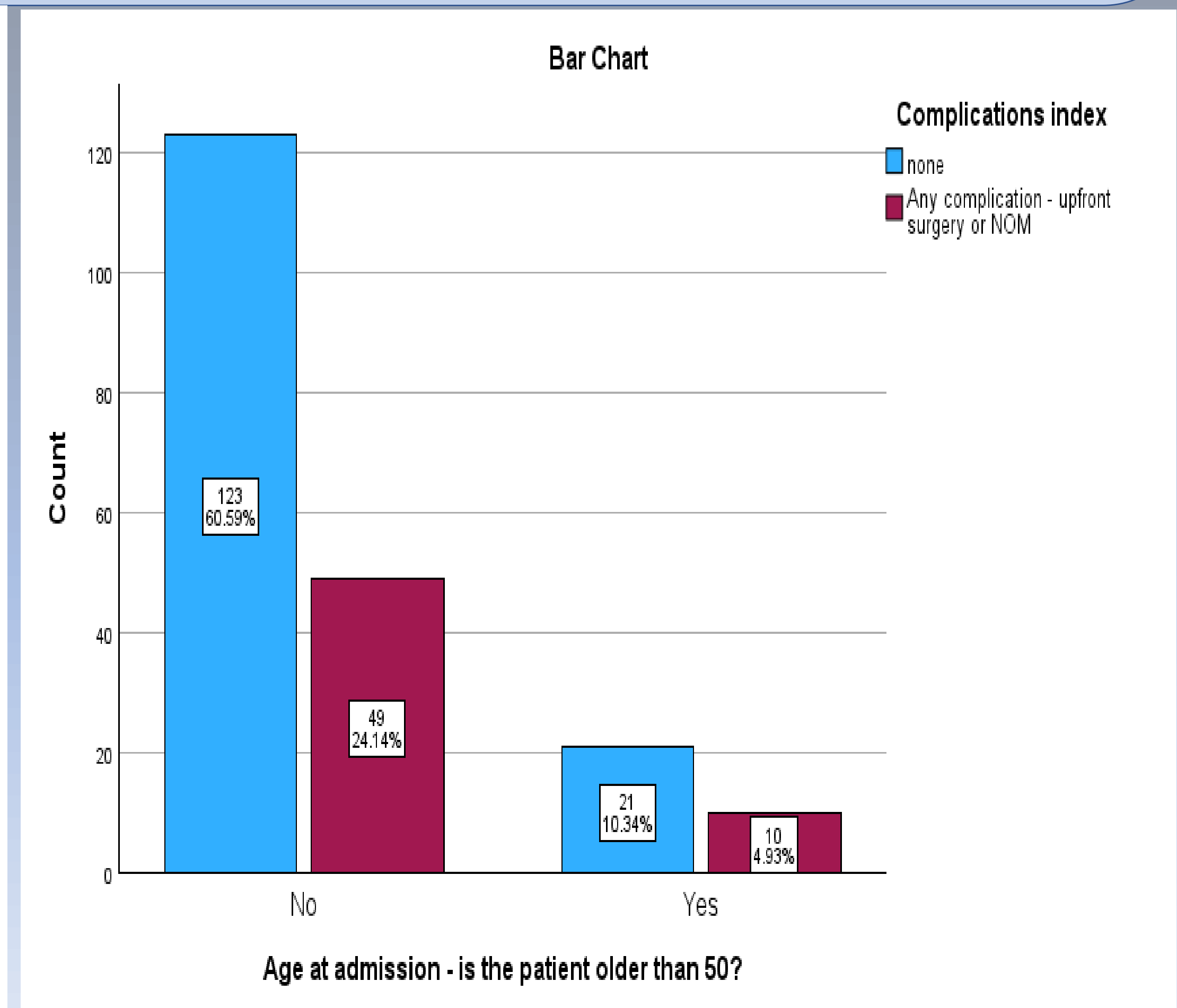
**Results:**

- The study cohort comprised 203 patients diagnosed with acute appendicitis (AA), stratified into two age-based groups: a younger cohort (<50 years, n=172) and an older cohort (50+ years, n=31, 15.3%).
- The mean age of the younger patients was 26.5 ± 8 years, while the older group had a mean age of 65 ± 12.3 years (p < 0.001).
- Younger patients were significantly taller (171 ± 1.3 cm vs. 166 ± 0.8 cm, p = 0.043). However, there was no statistically significant difference in Weight or Body Mass Index (BMI) between the two groups (25 ± 4.6 kg/m<sup>2</sup> vs. 27 ± 6 kg/m<sup>2</sup>, p = 0.075).

| Variable                                         | Younger Patients | Older Patients | p-value |
|--------------------------------------------------|------------------|----------------|---------|
| Intraoperative Findings                          |                  |                |         |
| Complex appendicitis (gangrenous/perforated) (%) | 8.1%             | 38.5%          | 0.007   |
| Hospitalization                                  |                  |                |         |
| Total length of stay (days)                      | 3.2 ± 1.7        | 4.4 ± 2.7      | 0.013   |
| Post-surgery length of stay (days)               | 2.6              | 3.3            | 0.373   |
| Postoperative Management & Outcomes              |                  |                |         |
| Discharged with antibiotics (%)                  | 33.6%            | 64.3%          | 0.025   |
| Overall complication rate (%)                    | 28.5%            | 32.3%          | 0.670   |
| Readmission rate (%)                             | 17.4%            | 16.1%          | 0.859   |

**Results, continued:**

- The older patient cohort presented with a significantly higher burden of baseline comorbidities, including hypertension, diabetes mellitus, and ischemic heart disease (p < 0.001 for all).
- Upon clinical evaluation, older patients were significantly more likely to exhibit fever (16.1% vs. 5.9%, p = 0.046) and demonstrated elevated systemic inflammatory markers, specifically higher C-reactive protein (CRP) levels (p = 0.006). Interestingly, baseline leukocyte (WBC) counts did not differ significantly between the two age groups (p = 0.971).
- Despite these differences in systemic presentation and underlying health status, the utilization of preoperative CT imaging was exceptionally high and statistically equivalent across both cohorts (>96%, p = 0.937).



**Discussion and conclusions:**

- In this cohort, Age did not serve as a determinant for disparate outcomes or disease severity in acute appendicitis. Despite the differences between the age groups treated in southern Israel, both groups received equitable and comparable surgical care with similar clinical trajectories.
- Management strategies, Including Non-Operative Management, were similar across both cohorts, as were postoperative complication rates and lengths of hospital stay for both groups.