Angle Class III Malocclusions are dysmorphic entities in Orthodontics, with multifactorial aetiology and different clinical manifestations, which develop from simple forms such as reverse interlocking to major modifications in the facial harmony (mandibular protrusion with macrognathism).

Characterized by mesially positioned frontal teeth, canines and molars, these abnormalities tend to exacerbate because of unfavourable evolution in time and in Orthodontics they are regarded as emergency cases.

The main objective of this paper is the importance of establishing a correct diagnosis by using modern techniques, which directs us towards an etiologic treatment with orthodontic solutions, since the establishment of early treatment can slow down or even stop the evolution of mild to severe anatomical form.
This study is structured into two parts: the general part includes the synthesis of data from the specialty literature and the special part with personal contributions.

The general part includes the aetiology of Angle Class III Malocclusion, clinical forms and the diagnosis of progenic syndrome.

The second part of personal contributions comprises six chapters:
The first chapter presents the statistical survey of the frequency of class III abnormalities in a group of 355 children and adults who presented at the Orthodontics Department of the Pediatric Dentistry Clinic, Targu Mures during 2005 – 2008.
1) The results of the performed statistical surveys show a low frequency of Class III abnormalities compared with the other abnormalities and a higher frequency of occurrence in young males.
2) Early recognition during the period of mixed, temporary dentition allowed a more rapid and lasting resolution of the orthodontic abnormality, with no risk of relapse. Response to treatment in case of patients with immature permanent teeth was slower. The duration of orthodontic treatment also depended on the form of class III abnormality, anatomic mandibular prognathism being the most difficult to treat.

Chapter two describes the investigation performed on skulls from the Collection of the Department of Anatomy, University of Medicine and Pharmacy, Tg. Mures, by studying the morphological aspects of the maxillary bones in relation to normal or pathological occlusion and ATM remodelling, as a consequence of mandibular prognathism. The study was performed on 43 skulls of the Collection, out of which 23 were adult and 20 child skulls.
1) Studies performed on skulls show that infants initially do not present fetal mandibular prognathism, this exaggerated growth occurs after the age of 2, because of hormonal stimuli and local factors (vicious habits, propulsion tics).
2) Investigations on child skulls with mandibular prognathism showed no metamorphoses, although speciality literature considers this an important source of risk, responsible for the appearance of ATM dysfunction.
3) In Orthodontics the knowledge of growth mechanism and bone remodeling is imperative, in order to distinguish severe anatomical forms of Class III Malocclusion caused by general factors from the functional ones determined by local factors, which can be treated without orthognathic surgery by early therapy.

Chapter three describes contemporary methods of radiography analysis used in case of Class III Malocclusion. This chapter comprises two studies:
- The first study was conducted on 15 lateral cephalograms made in centric occlusion. The acquired data were supplemented with data of the studied model and photographic examination. The cephalograms were analyzed by the aid of Tweed method. The conclusions of this study are:
  1) Cephalometry is a paraclinical investigation method that is imperative to determine an accurate and complete diagnosis and to develop a treatment plan in fixed orthodontics.
  2) Cephalometry is also a method that is used to study facial aesthetics and the components of dental-maxillary appliances.
  3) It is a method used for predicting the growth direction of cephalic extremity and facial massif.
- The purpose of the second study was the comparative assessment of data obtained by manual and computerized tracing of 15 conventional and digital radiographs.
  1) Comparative studies of conventional and digital tracings show that, although there are slight differences between measurements the obtained results can be used in the medical practice, because the obtained results range between clinically accepted differences.
  2) The major advantage of modern cephalometry consists in time saving.
  3) In order to successfully use a cephalometric program, some basic requirements should be fulfilled, such as the accurate tracing of a cephalogram.

Chapter four comprises the description of therapeutic choices, methods of prevention, fixed orthodontic therapy in case of Class III Malocclusion. We can conclude that:
1) The treatment of pseudo-prognathism takes time, the emphasis being on the stimulation of mandibular development. There are two types of appliances used in this kind of treatment: stress breaker and Delaire mask.

2) In our clinical study both types of devices produced the expansion and protrusion of the upper jaw. When the stress breaker is cemented into the buccal cavity it takes effect faster and acts by dissolving the medio-palatine suture.

3) We used two types of stress breakers and found that the one with cap splint and conventional screw provided faster results. Both devices are efficient in children during growth, while sutures are still active and respond to higher intensity orthodontic forces.

4) Surgical treatment is indicated in case of considerable deviations of the mandibular bases, which aims to restore intermaxillary and interdental reports and functions.

Chapter five is a longitudinal study of 21 subjects suffering from Class III Malocclusion, performed in different periods of time, compared to a group of patients presenting Angle Class I abnormalities. This study was performed to investigate the rate of bone growth and maturation in these patients.

1) In patients with Class III Malocclusion, facial growth is slower compared to those with Class I, in both prepubertal periods (stage C2, C3 and pubertal, stage C3, C4).

2) Measurements showed an increased mandibular growth rate in those with Class III Malocclusion. Growth rate in Class III subjects was significantly different compared to subjects with Class I abnormalities. This appears later than normally and lasts longer during the postpubertal period.

3) Therapy in patients with Class III Malocclusion should start early, in the prepubertal age, with appliances that stimulate maxillary development and inhibit mandibular growth. Therapy is extended to the post-pubertal period too, taking into account that these patients still continue to grow.

Angle Class III Malocclusions are probably the most serious abnormalities. The results of this study highlight the fact that these patients need to be diagnosed and followed up, referred to specialists and established early orthodontic treatment as soon as possible to prevent the aggravation of their condition in time and alteration of clinical forms into other more severe ones.